

**TOWN OF CLIFTON FORGE  
ALLEGHANY COUNTY, VIRGINIA**

**RIVER ROAD WATER SYSTEM UPGRADES PROJECT**

**ADDENDUM #1**

**JULY 5, 2022**

**THRASHER PROJECT #T10-11008**

TO WHOM IT MAY CONCERN:

A Pre-Bid Conference was held on Friday, June 24, 2022 on the above-referenced project, a copy of the sign in sheet is included in this Addendum. The following are clarifications and responses to questions posed by contractors for the above reference project.

**A. GENERAL**

1. **Bid Day and Date have been changed to Wednesday, July 13, 2022. Bids for the construction of the Project will be received at the Town of Clifton Forge located at 547 Main St., Clifton Forge, Alleghany County, Virginia 24422, until Wednesday, July 13, 2022 at 3:00 p.m., L.P.T local time. At that time, the Bids received will be “publicly” opened and read aloud.**

**B. SPECIFICATIONS**

The below Specifications have been Revised:

1. 012000-10 – Price and Payment Procedures
2. 321216-1 – Hot-Mix Asphalt Paving
3. 331113-9 Water Distribution Piping Section H. Backfilling
4. 331213 – Water Service Connections Section 2.5
5. C-410 Bid Form 2018
6. C-520 Agreement 2018 – Article 6 – Payment Procedures

**C. DRAWINGS**

1. Sheet 2 – Proposed Plan View
2. Sheet 2A – Staging and Layout Area
3. D1 – Typical Details

4. D4 – Typical Details

**D. QUESTIONS AND RESPONSES**

**QUESTION**

1. How will traffic control be handled for this project?

**RESPONSE**

The contractor is responsible for traffic control. While work is being completed on E. Ridgeway Street, the Town of Clifton Forge would prefer for one lane traveling east bound remain open on E. Ridgeway Street and west bound traffic detoured to Main Street. River Road can remain closed while under construction, however, the contractor is required to backfill trenches or cover with steel plate before leaving the construction site.

**QUESTION**

2. Is there a traffic control plan?

**RESPONSE**

No. The Contractor is responsible for traffic control.

**QUESTION**

3. Can a bid item be included for Traffic Control?

**RESPONSE**

Yes. Traffic Control has been added as a Lump Sum, Item #23. An updated Bid Schedule is attached with this Addendum.

**QUESTION**

4. Is there a designated material storage / laydown yard?

**RESPONSE**

Yes. A map indicating the location for material storage/laydown is attached to this Addendum.

**QUESTION**

5. What should the contractor do with the existing meters and waterline underneath the bridge?

**RESPONSE**

Existing meters and waterline can be abandoned in place. The contractor is required to bury existing abandoned assets if not already buried.

**QUESTION**

6. Is stone backfill required on the gravel road?

**RESPONSE**

Yes. Stone backfill is required.

**QUESTION**

7. Will flooding of the creek underneath the bridge cause issues with the lids staying on the water meter boxes?

**RESPONSE**

Bolt-Down Water Meter Lids are required to mitigate this potential issue.

**QUESTION**

8. Is the contractor responsible for compaction / material testing?

**RESPONSE**

Yes. The Contractor is responsible for compaction / material testing.

**QUESTION**

9. Can a cost be provided for compaction / material testing?

**RESPONSE**

The Thrasher Group (TTG) will provide a compaction and materials testing proposal to the email addresses provided at the pre-bid meeting. Bidders are not obligated to use TTG for these services and remain responsible for all materials and compaction testing.

**QUESTION**

10. Please confirm the number of valves on the plans versus the bid form.

**RESPONSE**

The number of Insertion valves on Bid Item #4 has been adjusted to five (5). An amended bid schedule is attached to this Addendum.

**QUESTION**

11. Typically, retainage is 5% in Virginia. Why is the retainage listed at 10% for this Project?

**RESPONSE**

Retainage will be 5% for this project.

**QUESTION**

12. Confirm when mobilization will be paid to the contractor.

**RESPONSE**

75% of mobilization will be included with the first payment and 25% with the final payment.

**QUESTION**

13. Will concrete be utilized for anchoring water meters in place?

**RESPONSE**

A poured-in-place concrete ring will be utilized to secure water meter boxes in place for all water meters underneath E Ridgeway St.

**QUESTION**

14. Is the asphalt overlay milled?

**RESPONSE**

Yes. All asphalt overlay is required to be milled.

**QUESTION**

15. Is stone backfill required?

**RESPONSE**

Yes. Stone backfill is required.

**QUESTION**

16. Is there an area for waste disposal?

**RESPONSE**

Yes. The Contractor will coordinate with the Town of Clifton Forge for waste disposal. Located at 703 & 705 Elko Street, Selma, Virginia, 24474.

**QUESTION**

17. Is there a permit needed for waste disposal in Alleghany County?

**RESPONSE**

No. A permit will not be required. The Contractor will coordinate with the Town of Clifton Forge for waste disposal.

**QUESTION**

18. How will material availability delays be handled regarding the AIS requirement?

**RESPONSE**

Should material delays prevent the Contractor from meeting contract milestones and/or completion requirements, the Contractor shall immediately communicate those expected delays to the Owner and the Engineer. Upon Contractor demonstration of delay, the Engineer, Contractor, and Owner shall coordinate and adjust the project schedule and deadlines. Should American Iron and Steel qualifying materials cause significant delays the Owner, at their discretion, may seek a waiver from the necessary funding agencies and allow the Contractor to pursue substitute materials. All substitute material(s) shall adhere to the specifications and be approved by Thrasher prior to installation.

**QUESTION**

19. Is construction stakeout required?

**RESPONSE**

Yes. Construction stakeout is required. It is the Contractor's responsibility to coordinate construction stakeout.

**QUESTION**

20. Can a cost be provided for the construction stakeout?

**RESPONSE**

The Thrasher Group (TTG) will provide a construction stakeout proposal to the email addresses provided at the pre-bid meeting. Bidders are not obligated to use TTG for these services and remain responsible for all construction related survey requirements.

**QUESTION**

21. It is our understanding that this project should be bid with materials meeting the AIS certification. Is this correct?

**RESPONSE**

Yes. Contractor will be required to bid with AIS certified materials.

**QUESTION**

22. Is pricing or availability for these materials are an issue, then the awarded contractor can apply for an exemption. Is this correct?

**RESPONSE**

Should American Iron and Steel qualifying materials cause significant delays the Owner, at their discretion, may seek any necessary waivers to allow the Contractor to pursue substitute materials. All substitute material(s) shall adhere to the specifications and be approved by Thrasher prior to installation.

Pricing of AIS materials should be incorporated into the bid.

**QUESTION**

23. If this is all correct, we do not need to submit application for exemption at time of bid. Correct?

**RESPONSE**

Should American Iron and Steel qualifying materials cause significant delays the Owner, at their discretion, may seek any necessary waivers to allow the Contractor to pursue substitute materials. All substitute material(s) shall adhere to the specifications and be approved by Thrasher prior to installation.

## E. CLARIFICATIONS

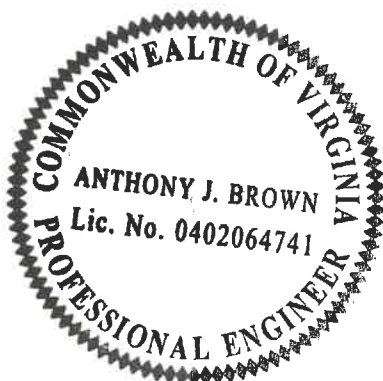
1. Existing Gutter Drains along River Road have been addressed on Sheet 2 – Proposed Plan View and Sheet D4 – Typical Details.
2. VDOT – Roadways within the Project Area are maintained by the Town of Clifton Forge.
3. Foot access to the side door beside gravel drive before going underneath bridge needs to remain open and accessible during construction. This can be coordinated with Jane Greenwood, building owner, and/or Lollie's Quilt Shop (540)-862-7845.
4. The side door on River Road for the home health business will need to be accessible during construction. The contractor will work with the business owner to coordinate access accordingly.

As a reminder, bids will be received until 3:00 p.m. on Wednesday, July 13, 2022, at the Town of Clifton Forge, 547 Main St., Clifton Forge, VA 24422. Good luck to everyone and thank you for your interest in the project.

Sincerely,

THE THRASHER GROUP, INC.

  
Anthony Brown, P.E.  
Project Engineer



## SECTION 012000 - PRICE AND PAYMENT PROCEDURES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract Documents, including General and Supplementary Conditions, Division 01, and all related Specification Sections, apply to this Section.

#### 1.2 SECTION INCLUDES

- A. Schedule of Values.
- B. Application for Payment.
- C. Change procedures.
- D. Defect assessment.
- E. Measurement and Payment.
- F. Unit Prices.
- G. Alternates.

#### 1.3 SCHEDULE OF VALUES

- A. Submit printed schedule on Progress Estimate schedule on EJCDC C-620 – Contractor's Application for Payment or Contractor's standard form or electronic media printout will be considered for this use.
- B. Submit Schedule of Values in duplicate within 20 days after date established in Notice to Proceed.
- C. Format: Use the Table of Contents of this Project Manual. Identify each line item with number and title of major Specification Section. Also identify Site mobilization, bonds and insurance, and demobilization.
- D. Include within each line item, direct proportional amount of Contractor's overhead and profit.
- E. Revise schedule to list approved Change Orders with each Application for Payment.

- A. Submit three (3) copies of each Application for Payment on EJCDC C-620 – Contractor's Application for Payment.
- B. Content and Format: Use Schedule of Values for listing items in Application for Payment.
- C. Submit updated construction schedule with each Application for Payment.
- D. Payment Period: Submit at intervals stipulated in the Agreement.
- E. Submit submittals with transmittal letter as specified in Section 013300 - Submittal Procedures. Submittals will need to be submitted and approved before first pay application.
- F. Substantiating Data: When Engineer requires substantiating information, submit data justifying dollar amounts in question. Include the following with Application for Payment:
  - 1. Current construction photographs.
  - 2. Partial release of Liens from major Subcontractors and vendors.
  - 3. Record Documents as specified in Section 017000 - Execution and Closeout Requirements, for review by Owner, which will be returned to Contractor.
  - 4. Affidavits attesting to off-Site stored products.
  - 5. Construction Progress Schedule revised and current as specified in Section 013300 - Submittal Procedures.

#### 1.5 CHANGE PROCEDURES

- A. Submittals: Submit name of individual who is authorized to receive change documents and is responsible for informing others in Contractor's employ or Subcontractors of changes to the Work.
- B. Carefully study and compare Contract Documents before proceeding with fabrication and installation of Work. Promptly advise Engineer of any error, inconsistency, omission, or apparent discrepancy.
- C. Requests for Interpretation (RFI) and Clarifications: Allot time in construction scheduling for liaison with Engineer; establish procedures for handling queries and clarifications.
  - 1. Use Request for Information Form for requesting interpretations (provided by Engineer upon request).
  - 2. Engineer may respond with a direct answer on the Request for Information form, separate Engineer Response, EJCDC C-942 - Field Order, or EJCDC C-940 - Work Change Directive Form.
- D. Engineer will advise of minor changes in the Work not involving adjustment to Contract Sum/Price or Contract Time by issuing supplemental instructions on EJCDC C-942 – Field Order.
- E. Engineer may issue Notice of Change including a detailed description of proposed change with supplementary or revised Drawings and Specifications, a change in Contract Time for executing



the change with stipulation of overtime Work required and with the period of time during which the requested price will be considered valid. Contractor will prepare and submit estimate within ten (10) days.

- F. Contractor may propose changes by submitting a request for change to Engineer, describing proposed change and its full effect on the Work. Include a statement describing reason for the change and the effect on Contract Sum/Price and Contract Time with full documentation and a statement describing effect on the Work by separate or other Contractors.
- G. Stipulated Sum/Price Change Order: Based on Proposal Request or Work Change Directive and Contractor's maximum price quotation or Contractor's request for Change Order as approved by Engineer.
- H. Unit Price Change Order: For Contract unit prices and quantities, the Change Order will be executed on a fixed unit price basis. For unit costs or quantities of units of that which are not predetermined, execute Work under Work Directive Change. Changes in Contract Sum/Price or Contract Time will be computed as specified for Time and Material Change Order.
- I. Work Change Directive: Engineer may issue directive, on EJCDC C-940 - Work Change Directive, instructing Contractor to proceed with change in the Work, for subsequent inclusion in a Change Order. Document will describe changes in the Work and designate method of determining any change in Contract Sum/Price or Contract Time. Promptly execute change.
- J. Time and Material Change Order: Submit itemized account and supporting data after completion of change, within time limits indicated in Conditions of the Contract. Engineer will determine change allowable in Contract Sum/Price and Contract Time as provided in Contract Documents.
- K. Maintain detailed records of Work done on time and material basis. Provide full information required for evaluation of proposed changes and to substantiate costs for changes in the Work.
- L. Document each quotation for change in Project Cost or Time with sufficient data to allow evaluation of quotation.
- M. Change Order Forms: EJCDC C-941 - Change Order.
- N. Execution of Change Orders: Engineer will issue Change Orders for signatures of parties as provided in Conditions of the Contract.
- O. Correlation of Contractor Submittals:
  - 1. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as separate line item and adjust Contract Sum/Price.
  - 2. Promptly revise Progress Schedules to reflect change in Contract Time, revise sub-schedules to adjust times for other items of Work affected by the change, and resubmit.
  - 3. Promptly enter changes in Record Documents.

#### 1.6 DEFECT ASSESSMENT

- A. Replace the Work, or portions of the Work, not conforming to specified requirements.

- B. If, in the opinion of Engineer or Owner, it is not practical to remove and replace the Work, Engineer or Owner will direct appropriate remedy or adjust payment.
- C. The defective Work may remain, but unit sum/price will be adjusted to new sum/price at discretion of Owner.
- D. Defective Work will be partially repaired according to instructions of Engineer, and unit sum/price will be adjusted to new sum/price at discretion of Owner.
- E. Individual Specification Sections may modify these options or may identify specific formula or percentage sum/price reduction.
- F. Authority of Owner to assess defects and identify payment adjustments is final.
- G. Nonpayment for Rejected Products: Payment will not be made for rejected products for any of the following reasons:
  - 1. Products wasted or disposed of in a manner that is not acceptable.
  - 2. Products determined as unacceptable before or after placement.
  - 3. Products not completely unloaded from transporting vehicle.
  - 4. Products placed beyond lines and levels of the required Work.
  - 5. Products remaining on hand after completion of the Work.
  - 6. Loading, hauling, and disposing of rejected products.

## 1.7 MEASUREMENT AND PAYMENT

### A. General Requirements

- 1. Contractor shall take measurements and compute quantities. Resident Project Representative and Engineer will verify measurements and quantities.
- 2. Unit Quantities: Quantities and measurements indicated on Bid Form are for Contract purposes only. Actual quantities provided shall determine payment.
  - a. When actual Work requires more or fewer quantities than those quantities indicated, provide required quantities at Contracted unit sum/prices.
  - b. When actual Work requires 25 percent or greater change in quantity than those quantities indicated, Owner or Contractor may claim a Contract Price adjustment.
- 3. Payment Includes: Full compensation for required labor, products, tools, equipment, plant and facilities, transportation, services and incidentals; erection, application, or installation of item of the Work; overhead and profit.
- 4. Final payment for Work governed by unit prices will be made on basis of actual measurements and quantities accepted by Engineer multiplied by unit sum/price for Work incorporated in or made necessary by the Work.

### B. Measurement of Quantities

- 1. Weigh Scales: Inspected, tested, and certified by applicable Virginia weights and measures department within past year.
- 2. Platform Scales: Of sufficient size and capacity to accommodate conveying vehicle.

3. Metering Devices: Inspected, tested, and certified by applicable Virginia department within past year.
4. Measurement by Weight: Concrete reinforcing steel, rolled or formed steel, or other metal shapes will be measured by handbook weights. Welded assemblies will be measured by handbook or scale weight.
5. Measurement by Volume: Measured by cubic dimension using mean length, width, and height or thickness.
6. Measurement by Area: Measured by square dimension using mean length and width or radius.
7. Linear Measurement: Measured by linear dimension, at item centerline or mean chord.
8. Stipulated Sum/Price Measurement: Items measured by weight, volume, area, or linear means or combination, as appropriate, as completed item or unit of the Work.

C. Unit Price Schedule:

1. Bid Item 1 – Mobilization/Demobilization

- a. This Bid Item shall include the costs associated with the performance of construction preparatory operations, including but not limited to:
  - 1) Moving equipment and personnel to and from the Project Site(s)
  - 2) Paying all bonding costs incurred by the Contractor
  - 3) Unloading and reloading materials and equipment required
  - 4) All costs associated with demobilization
- b. This Bid Item shall also include any and all costs associated with the following Specification Sections:
  - 1) Section 012600 – Contract Modification Procedures
  - 2) Section 013000 – Administrative Requirements
  - 3) Section 013216 – Construction Progress Schedule
  - 4) Section 013300 – Submittal Procedures
  - 5) Section 017000 – Execution and Closeout Requirements
  - 6) Section 017839 – Project Record Documents
- c. Payment shall be made at the lump sum (LS) price Bid for Mobilization/Demobilization, but in no case shall the total lump sum Bid Price exceed five (5) percent of the total Bid.
- d. Partial Payments of the lump sum Bid amount for mobilization/demobilization shall be as follows:
  - 1) Seventy-five percent (75%) of the amount Bid for Mobilization/Demobilization will be released to the Contractor as the first estimate payable.
  - 2) Twenty-five percent (25%) of the amount Bid for Mobilization/Demobilization shall be released with the final payment.
  - 3) No reduction will be made, nor any increase be made, in the lump sum mobilization item amount regardless of decreased or increases in the final total Contract amount or for any other cause.

2. Bid Item 2 – Pre-Construction Video of Project Area

- a. This Bid Item shall include any and all costs associated with the following Specification Section 024010 – Video Recording.
- b. The cost of this work shall be included in a lump sum bid item. Such payment shall constitute full compensation for labor, materials, equipment, and other costs associated to provide a complete documentation.
- c. Videotaping shall include the entire construction area affected, including any Contractor secured waste site and material storage or staging areas. The measurement for this Bid Item shall be based on a complete video recording on a DVD, or other approved medium, of the entire project area.

3. Bid Item 3 – Erosion and Sediment Controls

- a. The cost for this Work shall be included in a lump sum bid item and shall include all costs associated with erosion and sedimentation controls including, but not limited to, all materials and labor for installation, maintenance, and removal.
- b. Erosion and Sediment Control shall include the entire construction area affected as required, including any Contractor secured waste site and material storage or staging areas.
- c. Payment shall be made at the lump sum (LS) price Bid for Erosion and Sediment Controls. No reduction will be made, nor any increase be made, in the lump sum mobilization item amount regardless of decreased or increases in the final total Contract amount or for any other cause

4. Bid Item 4 – 6” Valve Insertion

- a. This Bid Item shall include all required labor, materials, equipment, and all other costs associated with the removal and disposal of existing water valve and valve box and the installation of the new insertion valve including, but not limited to, valve box, tools, supplies, and incidentals.
- b. The 6” Valve Insertion under this item shall be measured and paid for at the unit price Bid per each (EA) 6” Valve Insertion as specified in design plans or as directed by the Engineer.

5. Bid Item 5 – Cut and Cap Existing 4” Water Line

- a. This Bid Item shall include all required labor, materials, equipment and all other costs associated with cutting and capping the existing 4” water lines, tools, supplies, testing, and incidentals.

- b. The Cut and Cap Existing 4" Water Line under this item shall be measured and paid for at the unit price Bid per each (EA) Cut and Cap Existing 4" Water Line as specified in design plans or as directed by the Engineer.
- 6. Bid Item 6 – 6" PVC C900 DR-14 Pipe (Open Cut)
  - a. This Bid Item shall include all required labor, materials, equipment, and all other costs associated with excavation, installation, compaction, backfill stone, tools, supplies, testing, and incidentals.
  - b. Bid price shall include all labor and materials required, including but not limited to, PVC pipe, fittings, excavation, bedding material, backfill stone, and incidental material to make proper and correct installation.
  - c. The 6" PVC C900 DR-14 Pipe (Open Cut) under this item shall be measured and paid for at the unit price Bid per Linear Foot (LF) Cut and 6" PVC C900 DR-14 Pipe (Open Cut) as specified in design plans or as directed by the Engineer.
- 7. Bid Item 7 – 2" PE DR-7 Water Line (Open Cut)
  - a. This Bid Item shall include all required labor, materials, equipment, and all other costs associated with excavation, installation, compaction, backfill stone, tools, supplies, testing, and incidentals.
  - b. Bid price shall include all labor and materials required, including but not limited to, 2" PE DR-7 pipe, fittings, excavation, bedding material, backfill, and incidental material to make proper and correct installation.
  - c. The 2" PE DR-7 Water Line (Open Cut) under this item shall be measured and paid for at the unit price Bid per Linear Foot (LF) 2" PE DR-7 Water Line (Open Cut) as specified in design plans or as directed by the Engineer.
- 8. Bid Item 8 – 1" PE DR-9 Water Line (Open Cut)
  - a. This Bid Item shall include all required labor, materials, equipment, and all other costs associated with excavation, installation, compaction, backfill stone, tools, supplies, testing, and incidentals.
  - b. Bid price shall include all labor and materials required, including but not limited to, 1" PE DR-9 pipe, fittings, excavation, bedding material, backfill, and incidental material to make proper and correct installation.

- c. The 1" PE DR-9 Water Line (Open Cut) under this item shall be measured and paid for at the unit price Bid per Linear Foot (LF) 1" PE DR-9 Water Line (Open Cut) as specified in design plans or as directed by the Engineer.

9. Bid Item 9 – 1" MJT Gate Valve Complete

- a. This Bid Item shall include all required labor, materials, equipment, and all other costs associated with the installation of the new 1" MJT Gate Valve and valve box including, but not limited to, valve box, tools, supplies, and incidentals.
- b. Bid price shall include all labor and materials required to ensure proper installation of 1" MJT Gate Valve Complete.
- c. The 1" MJT Gate Valve Complete under this item shall be measured and paid for at the unit price Bid per each (EA) 1" MJT Gate Valve Complete as specified in design plans or as directed by the Engineer.

10. Bid Item 10 – 2" MJT Gate Valve Complete

- a. This Bid Item shall include all required labor, materials, equipment, and all other costs associated with the installation of the new 2" MJT Gate Valve and valve box including, but not limited to, valve box, tools, supplies, and incidentals.
- b. Bid price shall include all labor and materials required to ensure proper installation of 2" MJT Gate Valve Complete.
- c. The 2" MJT Gate Valve Complete under this item shall be measured and paid for at the unit price Bid per each (EA) 2" MJT Gate Valve Complete as specified in design plans or as directed by the Engineer.

11. Bid Item 11 – 6" MJT Gate Valve Complete

- a. This Bid Item shall include all required labor, materials, equipment, and all other costs associated with the installation of the new 6" MJT Gate Valve and valve box including, but not limited to, valve box, tools, supplies, and incidentals.
- b. Bid price shall include all labor and materials required to ensure proper installation of 6" MJT Gate Valve Complete.
- c. The 6" MJT Gate Valve Complete under this item shall be measured and paid for at the unit price Bid per each (EA) 6" MJT Gate Valve Complete as specified in design plans or as directed by the Engineer.

12. Bid Item 12 – 2" Blow Off Assembly Complete

- a. This Bid Item shall include all required labor, materials, equipment, and all other costs associated with the installation of the new 2" Blow Off Assembly including, but not limited to, valve box, tools, supplies, and incidentals.

- b. Bid price shall include all labor and materials required to ensure proper installation of 2" Blow Off Assembly Complete.
    - c. The 2" Blow Off Assembly Complete under this item shall be measured and paid for at the unit price Bid per each (EA) 2" Blow Off Assembly Complete as specified in design plans or as directed by the Engineer.
- 13. Bid Item 13 – 5/8" Water Meter Setting complete
  - a. This Bid Item shall include all required labor, materials, equipment, and all other costs associated with the installation and connection of the new 5/8" Water Meter Setting including, but not limited to, meter box with locking lid, concrete ring, tools, supplies, and incidentals.
    - 1) The Town of Clifton Forge will supply the water meter. Contractor to install meter upon receipt.
  - b. Bid price shall include all labor and materials required to ensure proper installation of 5/8" Water Meter Setting complete.
  - c. The 5/8" Water Meter Setting complete under this item shall be measured and paid for at the unit price Bid per each (EA) 5/8" Water Meter Setting complete as specified in design plans or as directed by the Engineer.
- 14. Bid Item 14 – 2" Water Meter Setting complete
  - a. This Bid Item shall include all required labor, materials, equipment, and all other costs associated with the installation and connection of the new 2" Water Meter Setting including, but not limited to, meter box with locking lid, concrete ring, tools, supplies, and incidentals.
    - 1) The Town of Clifton Forge will supply the water meter. Contractor to install meter upon receipt.
  - b. Bid price shall include all labor and materials required to ensure proper installation of 2" Water Meter Setting complete.
  - c. The 2" Water Meter Setting complete under this item shall be measured and paid for at the unit price Bid per each (EA) 2" Water Meter Setting complete as specified in design plans or as directed by the Engineer.
- 15. Bid Item 15 – 2" Tie-in to new 2" Waterline complete
  - a. This Bid Item shall include all required labor, materials, equipment, and all other costs associated with the connection of the new 2" waterline including, but not limited to, fittings, tools, supplies, and incidentals.
  - b. Bid price shall include all labor and materials required to ensure proper connection of the 2" Tie-in to new 2" Waterline complete.

- c. The 2" Tie-in to new 2" Waterline complete under this item shall be measured and paid for at the unit price Bid per each (EA) 2" Tie-in to new 2" Waterline complete as specified in design plans or as directed by the Engineer.
- 16. Bid Item 16 – 4" Tie-in to new 6" Waterline complete
  - a. This Bid Item shall include all required labor, materials, equipment, and all other costs associated with the connection of the new 4" waterline to the new 6" waterline including, but not limited to, fittings, tools, supplies, and incidentals.
  - b. Bid price shall include all labor and materials required to ensure proper connection of new 4" waterline to the new 6" waterline.
  - c. The new 4" waterline to the new 6" waterline complete under this item shall be measured and paid for at the unit price Bid per each (EA) new 4" waterline to the new 6" waterline complete as specified in design plans or as directed by the Engineer.
- 17. Bid Item 17 – 6" Tie-in to Existing 6" Waterline complete
  - a. This Bid Item shall include all required labor, materials, equipment, and all other costs associated with the connection of the new 6" waterline to the new 6" waterline including, but not limited to, fittings, tools, supplies, and incidentals.
  - b. Bid price shall include all labor and materials required to ensure proper connection of new 6" waterline to the new 6" waterline.
  - c. The new 6" waterline to the new 6" waterline under this item shall be measured and paid for at the unit price Bid per each (EA) new 6" waterline to the new 6" waterline complete as specified in design plans or as directed by the Engineer.
- 18. Bid Item 18 – 2" HMA Overlay
  - a. This Bid Item shall include all required labor, materials, equipment, and all other costs associated with removal and disposal of existing asphalt pavement, milling, and 2 inch asphalt pavement overlay.
  - b. All costs required for disposal shall be included in the unit price. Asphalt pavement removal and repair shall be minimized to an area sufficient to complete the work as shown in the plan set. No payment will be made for temporary paving required during construction or asphalt repair as a result of damage beyond the limits of construction.



- c. Existing asphalt pavement and associated materials will be disposed of in accordance with all local, state, and federal regulations.
- d. The 2" HMA Overlay under this item shall be measured and paid for at the unit price Bid per Ton (TN) 2" HMA Overlay as specified in design plans or as directed by the Engineer.

19. Bid Item 19 – Asphalt Pavement Repair

- a. This Bid Item shall include all required labor, materials, equipment, and all other costs associated with the Asphalt Pavement Repair including, but not limited to, milling, crusher run stone to a depth of 8 inches (minimum) and 2 inches hot mix asphalt (minimum) or match existing.
- b. Bid price shall include all labor and materials required to ensure proper installation as shown on the details in the plan set.
- c. The Asphalt Pavement Repair under this item shall be measured and paid for at the unit price Bid per Linear Foot (LF) Asphalt Pavement Repair as specified in design plans or as directed by the Engineer.

20. Bid Item 20 – Gravel Driveway/Road Repair

- a. This Bid Item shall include all required labor, materials, equipment, and all other costs associated with the gravel driveway repair. Stone for gravel driveway repair shall be a mixture of 0.5-inch to 2-inch in size.
- b. All costs required for traffic control shall be included in the unit price. Gravel Driveway/Road Repair shall be minimized to the limits as shown on the plans.
- c. Existing gravel driveway and associated materials will be disposed of in accordance with all local, state, and federal regulations.
- d. Payment shall be based on Linear Foot (LF) of Gravel Driveway/Road Repair as determined by the Contractor and confirmed by the Engineer. The Engineer has final authority for measured quantity.

21. Bid Item 21 – Incidental Stone

- a. This Bid Item shall include all required labor, materials, equipment, and all other costs associated with the placement of incidental stone. Stone size and use to be approved by engineer prior to order and placement of stone.
- b. The Incidental Stone under this item shall be measured and paid for at the unit price Bid per Ton (TN) Incidental Stone as approved or directed by the Engineer.

- a. This Bid Item shall include all required labor, materials, equipment, and all other costs associated with construction stakeout.
- b. All costs required for stakeout per the alignment, lines, and grades as shown in the design set be included in the unit price.
- c. The Construction Stakeout under this item shall be measured and paid for at the unit price Bid per Lump Sum (LS).

23. Bid Item 23 – Traffic Control

- a. This Bid Item shall include all required labor, materials, equipment, and all other costs associated with traffic control along River Road and East Ridgeway Street. Traffic control shall be structured such that the east bound lane of East Ridgeway Street remains open during construction and the west bound lane of East Ridgeway Street be closed off such that traffic is detoured to Main Street. River Road shall remain closed while under construction; however, contractor to maintain access to side door of home health business located on River Road.
- b. All costs required for traffic control per the VDOT Road and Bridge Specifications latest edition be included in the unit price.
- c. The Traffic Control under this item shall be measured and paid for at the unit price Bid per Lump Sum (LS).

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012000

## SECTION 321216 - HOT-MIX ASPHALT PAVING

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 REFERENCES

- A. Virginia Department of Transportation (VDOT) publications:
  - 1. Road and Bridge Specifications latest edition.
  - 2. Road and Bridge Standards: latest edition.

#### 1.3 SUMMARY

- A. This section includes the following:
  - 1. Hot-mix asphalt paving.
  - 2. Pavement-marking paint.
- B. Related Sections include the following:
  - 1. Section "Earthwork" for aggregate subbase course and aggregate pavement shoulders.

#### 1.4 SYSTEM DESCRIPTION

- A. Provide hot-mix asphalt pavement according to the materials, placement procedure, workmanship, and other applicable requirements of the standard specifications of the VDOT Road and Bridge Specification- s.

#### 1.5 SUBMITTALS

- A. Product Data: For each product specified. Include technical data and tested physical and performance properties.
- B. Job-Mix Designs: Shall adhere to the VDOT Road and Bridge Specifications latest edition for each job mix proposed for the Work.
- C. Job-Mix Design shall be submitted to Engineer for approval prior to installation.

## 1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experienced installer who has completed hot-mix asphalt paving similar in material, design, and extent to that indicated for this Project and with a record of successful in- service performance.
- B. Manufacturer Qualifications: Engage a firm experienced in manufacturing hot-mix asphalt similar to that indicated for this Project and with a record of successful in-service performance.
  - 1. Firm shall be a registered and approved paving mix manufacturer with VDOT.

## 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver pavement-marking materials to Project site in original packages with seals unbroken and bearing manufacturer's labels containing brand name and type of material, date of manufacture, and directions for storage.
- B. Store pavement-marking materials in a clean, dry, protected location and within temperature range re- quired by manufacturer. Protect stored materials from direct sunlight.

## 1.8 PROJECT CONDITIONS

- A. Pavement-Marking Paint: Proceed with pavement marking only on clean, dry surfaces and at a minimum ambient or surface temperature of 40 deg F (4 deg C) for oil-based materials, 50 deg F (10 deg C) for water-based materials, and not exceeding 95 deg F (35 deg C).

# PART 2 - PRODUCTS

## 2.1 AGGREGATES

- A. General: Use materials and gradations in accordance with VDOT specifications.
- B. Coarse Aggregate: Use materials and gradations in accordance with VDOT Specification Sections 203 and 211.
- C. Fine Aggregate: Use materials and gradations in accordance with VDOT Specification Sections 202 and 211. Material shall have a minimum sand equivalent of 30 when tested in accordance with the requirements of AASHTO T176.
- D. Mineral Filler: Use materials and gradations in accordance with VDOT Specification Section 201.

## 2.2 ASPHALT MATERIALS

- A. Asphalt Cement: Use materials in accordance with VDOT Specification Section 210.
- B. Prime Coat: Asphalt emulsion prime conforming to VDOT Specification Section 210.

- C. Water: Potable.

## 2.3 AUXILIARY MATERIALS

- A. Hot-Mix Asphalt: Provide dense, hot-laid, hot-mix asphalt plant mixes approved by VDOT and complying with the following requirements:
  - 1. Provide mixes with a history of satisfactory performance in geographical area where Project is located.
  - 2. Base Course: As indicated on the drawings.
  - 3. Surface Course: As indicated on the drawings.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Verify that subgrade is dry and in suitable condition to support paving and imposed loads.
- B. Proof-roll subbase using heavy, pneumatic-tired rollers to locate areas that are unstable or that require further compaction.
- C. Notify Engineer in writing of any unsatisfactory conditions. Do not begin paving installation until these conditions have been satisfactorily corrected.

### 3.2 SURFACE PREPARATION

- A. General: Immediately before placing asphalt materials, remove loose and deleterious material from substrate surfaces. Ensure that prepared subgrade is ready to receive paving.
  - 1. Sweep loose granular particles from surface of unbound-aggregate base course. Do not dislodge or disturb aggregate embedded in compacted surface of base course.
- B. Prime Coat: Apply per requirements of VDOT Specification Section 210.

### 3.3 HOT-MIX ASPHALT PLACING

- A. General: Apply asphalt per VDOT specifications.
- B. Machine place hot-mix asphalt mix on prepared surface, spread uniformly, and strike off. Place asphalt mix by hand to areas inaccessible to equipment in a manner that prevents segregation of mix. Place each course to required grade, cross section, and thickness, when compacted.
  - 1. Place hot-mix asphalt base course in number of lifts and thickness indicated per VDOT specifications.
  - 2. Revise below to higher temperature if thin lifts in cool weather are likely. See National Asphalt Pavement Association (NAPA) recommendations.

3. Begin applying mix along centerline of crown for crowned sections and on high side of one-way slopes, unless otherwise indicated.
  4. Begin applying mix along centerline of crown for crowned sections and on high side of one-way slopes, unless otherwise indicated.
- C. Promptly correct surface irregularities in paving course behind paver. Use suitable hand tools to remove excess material forming high spots. Fill depressions with hot-mix asphalt to prevent segregation of mix; use suitable hand tools to smooth surface.

### 3.4 JOINTS

- A. Construct joints per VDOT Specification Section 315.

### 3.5 COMPACTION

- A. General: Compact pavement per VDOT Specification Section 315.
- B. Finish Rolling: Finish roll paved surfaces to remove roller marks while hot-mix asphalt is still warm.
- C. Edge Shaping: While surface is being compacted and finished, trim edges of pavement to proper alignment. Bevel edges while still hot, with back of rake or smooth iron. Compact thoroughly using tamper or other satisfactory method.
- D. Repairs: Remove paved areas that are defective or contaminated with foreign materials. Remove paving course over area affected and replace with fresh, hot-mix asphalt. Compact by rolling to specified density and surface smoothness.
- E. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.
- F. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

### 3.6 INSTALLATION TOLERANCES

- A. General: Comply with tolerances per VDOT Specification Section 315.

### 3.7 PAVEMENT MARKING

- A. Do not apply pavement-marking paint until layout, colors, and placement have been verified with Engineer and VDOT Inspector.
- B. Allow paving to cure for 30 days before starting pavement marking.
- C. Sweep and clean surface to eliminate loose material and dust.

- D. Apply paint per VDOT Specification Section 704.
- E. Apply pavement marking to any asphalt or concrete pavement marked prior to construction. Replace marking in-kind.

### 3.8 FIELD QUALITY CONTROL

- A. Testing Agency: The Contractor will engage a qualified independent testing agency to perform field inspections and tests and to prepare test reports.
  - 1. Testing agency will conduct and interpret tests and state in each report whether tested Work complies with or deviates from specified requirements.
- B. Additional testing, at Contractor's expense, will be performed to determine compliance of corrected Work with specified requirements.
- C. Thickness: Measurements of trench asphalt repair will be collected at 10-foot intervals along the alignment of the trench. A straight-edge will be utilized to measure from the straight-edge to the top of the stone sub-grade.
- D. Install additional hot-mix asphalt where measurements indicate that it does not comply with specified requirements.

END OF SECTION 321216

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## SECTION 331113 - WATER DISTRIBUTION PIPING

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, Division 01, and all related Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section Includes:

1. Pipe and fittings for water lines.
2. Tapping sleeves and valves.
3. Valves ~~and fire hydrants~~.
4. Positive displacement meters.
5. Underground pipe markers.
6. Precast concrete vault.
7. Pipe support systems.
8. Pile support systems.
9. Bedding and cover materials.

#### 1.3 REFERENCE STANDARDS

- A. American Association of State Highway and Transportation Officials:

1. AASHTO T 180 - Standard Method of Test for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

- B. American Society of Mechanical Engineers:

1. ASME B16.1 - Gray Iron Pipe Flanges and Flanged Fittings: Classes 25, 125, and 250.

- C. ASTM International:

1. ASTM A36 - Standard Specification for Carbon Structural Steel.
2. ASTM A123 - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
3. ASTM A307 - Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength.
4. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12 400 ft-lbf/ft<sup>3</sup> (600 kN-m/m<sup>3</sup>).
5. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft<sup>3</sup> (2,700 kN-m/m<sup>3</sup>).

6. ASTM D1785 - Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120.
7. ASTM D2241 - Standard Specification for Poly(Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR Series).
8. ASTM D3035 - Standard Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter.
9. ASTM D3139 - Standard Specification for Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals.
10. ASTM D6938 - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).
11. ASTM F477 - Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.

D. American Water Works Association:

1. AWWA C104 - Cement-Mortar Lining for Ductile-Iron Pipe and Fittings.
2. AWWA C105 - Polyethylene Encasement for Ductile-Iron Pipe Systems.
3. AWWA C110 - Ductile-Iron and Gray-Iron Fittings.
4. AWWA C111 - Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.
5. AWWA C115 - Flanged Ductile-Iron Pipe with Ductile-Iron or Gray-Iron Threaded Flanges.
6. AWWA C151 - Ductile-Iron Pipe, Centrifugally Cast.
7. AWWA C153 - Ductile-Iron Compact Fittings.
8. AWWA C200 - Steel Water Pipe, 6 In. (150 mm) and Larger.
9. AWWA C203 - Coal-Tar Protective Coatings and Linings for Steel Water Pipelines - Enamel and Tape - Hot-Applied.
10. AWWA C205 - Cement-Mortar Protective Lining and Coating for Steel Water Pipe - 4 In. (100 mm) and Larger - Shop Applied.
11. AWWA C206 - Field Welding of Steel Water Pipe.
12. AWWA C207 - Steel Pipe Flanges for Waterworks Service - Sizes 4 In. Through 144 In. (100 mm Through 3,600 mm).
13. AWWA C208 - Dimensions for Fabricated Steel Water Pipe Fittings.
14. AWWA C213 - Fusion-Bonded Epoxy Coating for the Interior and Exterior of Steel Water Pipelines.
15. AWWA C300 - Reinforced Concrete Pressure Pipe, Steel-Cylinder Type.
16. AWWA C301 - Prestressed Concrete Pressure Pipe, Steel-Cylinder Type.
17. AWWA C500 - Metal-Seated Gate Valves for Water Supply Service.
18. AWWA C600 - Installation of Ductile-Iron Mains and Their Appurtenances.
19. AWWA C605 - Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for Water.
20. AWWA C606 - Grooved and Shouldered Joints.
21. AWWA C700 - Cold-Water Meters - Displacement Type, Bronze Main Case.
22. AWWA C701 - Cold-Water Meters - Turbine Type, for Customer Service.
23. AWWA C702 - Cold-Water Meters - Compound Type.
24. AWWA C706 - Direct-Reading, Remote-Registration Systems for Cold-Water Meters.
25. AWWA C900 - Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 In. Through 12 In. (100 mm Through 300 mm), for Water Transmission and Distribution.
26. AWWA C901 - Polyethylene (PE) Pressure Pipe and Tubing, 1/2 In. (13 mm) Through 3 In. (76 mm), for Water Service.

27. AWWA C905 - Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 14 In. Through 48 In. (350 mm Through 1,200 mm) for Water Transmission and Distribution.
28. AWWA C909 - Polyvinyl Chloride
29. AWWA M6 - Water Meters - Selection, Installation, Testing, and Maintenance.

E. Manufacturers Standardization Society of the Valve and Fittings Industry:

1. MSS SP-60 - Connecting Flange Joints between Tapping Sleeves and Tapping Valves.

F. National Fire Protection Association:

1. NFPA 24 - Standard for the Installation of Private Fire Service Mains and Their Appurtenances.

#### 1.4 SUBMITTALS

- A. Product Data: Submit data on pipe materials, pipe fittings, valves, and accessories.
- B. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- C. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.

#### 1.5 CLOSEOUT SUBMITTALS

- A. Section 017000 - Execution and Closeout Requirements: Requirements for submittals.
- B. Project Record Documents: Record actual locations of piping, valves, connections, thrust restraints, components, and elevations.
- C. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

#### 1.6 QUALITY ASSURANCE

- A. Valves: Mark valve body with manufacturer's name and pressure rating.
- B. Perform Work according to AWWA standards.

#### 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Section 016000 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.
- B. Deliver and store valves in shipping containers with manufacturer's labeling in place and inspect for damage.
- C. Block individual and stockpiled pipe lengths to prevent moving.

- D. Do not place pipe or pipe materials on private property or in areas obstructing pedestrian or vehicle traffic.
- E. Store polyethylene and PVC materials out of sunlight.

## 1.8 EXISTING CONDITIONS

- A. Field Measurements:
  - 1. Verify field measurements prior to fabrication.

## PART 2 - PRODUCTS

### 2.1 WATER PIPING

- A. Ductile-Iron Pipe:
  - 1. Comply with AWWA C151.
  - 2. Bituminous Outside Coating: Comply with AWWA C151.
  - 3. Pipe Mortar Lining:
    - a. Comply with AWWA C104.
    - b. Double thickness.
  - 4. Polyethylene Encasement: Comply with AWWA C105.
  - 5. Pipe Class:
    - a. Comply with AWWA C151.
    - b. Class 50
  - 6. Fittings:
    - a. Material: Ductile Iron, AWWA C110.
    - b. Compact Fittings: Comply with AWWA C153.
    - c. Coating and Lining:
      - 1) Bituminous Coating: Comply with AWWA C110.
      - 2) Cement Mortar Lining: Comply with AWWA C104, double thickness.
    - d. All underground fittings shall be **Domestic Made Only** mechanical joint ductile iron unless otherwise noted.
  - 7. Joints:
    - a. Mechanical and Push-on Joints: Comply with AWWA C111.
    - b. Flanged Joints: Comply with AWWA C115
    - c. Restrained Joints: Boltless, push-on type, joint restraint independent of joint seal.
- B. PVC:

1. Comply with AWWA C900 DR-14
2. Compact Fittings: Ductile Iron Fittings. Comply with AWWA C153.
3. Joints:
  - a. Comply with ASTM D3139.
  - b. Seals: PVC flexible elastomeric.
  - c. Solvent-cement couplings are not permitted.

C. PVC (3-inch or smaller):

1. Comply with ASTM D2241, SDR 13.5 (Class 315)
2. Fittings: Ductile Iron Fittings compatible with pipe
3. Joints:
  - a. Comply with ASTM D3139.

D. HDPE:

1. Comply with AWWA C906
2. Fittings: Molded or fabricated, butt fused, thermos fused to match pressure rating.
3. Joints:
  - a. Joined with butt, heat fusion joints as per ASTM D2657.

E. Polyethylene Pipe – Service Lines:

1. Comply with AWWA C901, ASTM D3035, SDR-7, SDR-9 for 200 psig pressure rating.
2. Fittings:
  - a. Comply with AWWA C901.
  - b. Type: Molded
3. Joints: Butt fusion or compression.

F. Copper Tubing – Service Lines:

1. Comply with ASTM B88.
2. Type K, annealed.
3. Fittings: Conform to ASME B16.18, cast copper or ASME B16.22, wrought copper.
4. Joints: Compression connection.

## 2.2 VALVES AND FIRE HYDRANTS

A. Valves: As specified in Section 331216 - Water Utility Distribution Valves.

~~B. Fire Hydrants: As specified in Section 331219 - Water Utility Distribution Fire Hydrants.~~

## 2.3 TAPPING SLEEVES AND VALVES

### A. Tapping Sleeves:

#### 1. Manufacturers:

- a. JCM Industries, Inc.
- b. Kennedy Valve Company
- c. Mueller Company
- d. Smith-Blair, Inc.
- e. U.S. Pipe Valve & Hydrant

#### 2. Description:

- a. Material: Ductile iron.
- b. Type: Dual compression.
- c. Outlet Flange Dimensions and Drilling: Comply with ASME B16.1, Class 125 and MSS SP-60.

### B. Tapping Valves:

#### 1. Manufacturers:

- a. JCM Industries, Inc.
- b. Kennedy Valve Company
- c. Mueller Company
- d. Smith-Blair, Inc.
- e. U.S. Pipe Valve & Hydrant

#### 2. Description:

- a. Comply with AWWA C500.
- b. Type: Double disc with non-rising stem.
- c. Inlet Flanges: Comply with ASME B16.1, Class 125 and MSS SP-60.
- d. Mechanical Joint Outlets: Comply with AWWA C111.

## 2.4 HIDDEN FLUSHING HYDRANT ASSEMBLIES

### A. Manufacturers:

1. Kupferle Foundry Company

Or approved equal.

### B. Description:

1. Kupferle Foundry Company Eclipse No. 85 Ground Hydrant
2. Inlet connection: 2" mechanical joint
3. Outlet: 2-1/2" National Standard Threads
4. Hydrant barrel riser pipe: 3" ductile iron pipe as furnished by manufacturer.

### C. Valves: As specified in Section 331216 - Water Utility Distribution Valves.

## 2.5 UNDERGROUND PIPE MARKERS

### A. Plastic Ribbon Tape:

1. Brightly colored, continuously printed.

2. Minimum 6 inches wide by 4 mil thick.
3. Manufactured for direct burial service.

B. Trace Wire:

1. Electronic detection materials for nonconductive piping products.
2. Unshielded, 12 AWG or larger, THWN-insulated copper wire.

2.6 PRECAST CONCRETE VALVE VAULTS AND METER BOXES

- A. Precast Concrete Valve Vaults and Meter Boxes: As specified in Section 330517 - Precast Concrete Valve Vaults and Meter Boxes.

2.7 VALVE BOXES

Manufacturers:

1. US Foundry
  2. Bingham and Taylor
  3. Mueller Company
- B. Description: Valve boxes and covers containing position indicators and valve extensions.
- C. Type: Cast iron; extension type; slide adjustment.
- D. Covers: Marked **WATER SERVICE** to indicate utility.

2.8 PIPE SUPPORTS AND ANCHORING

- A. Metal for Pipe Support Brackets: Structural steel, galvanized, thoroughly coated with bituminous paint.
- B. Metal Tie Rods and Clamps or Lugs: Galvanized steel sized according to NFPA 24, thoroughly coated with bituminous paint.

2.9 CONCRETE ENCASEMENT AND CRADLES

- A. Concrete:
1. As specified in Section 033000 - Cast-in-Place Concrete.
  2. Type: reinforced- if reflected in drawings.
  3. Compressive Strength: 4,000 psi at 28 days.
  4. Finish: Rough troweled.

## 2.10 ACCESSORIES

- A. Concrete for Thrust Restraints: As specified in Section 033000 - Cast-in-Place Concrete.
- B. Manhole and Cover: As specified in Section 330513.16 - Public Manholes and Structures.
- C. Steel Rods, Bolt, Lugs, and Brackets:
  - 1. Comply with ASTM A36 or ASTM A307.
  - 2. Grade A carbon steel.
- D. Protective Coating: Bituminous if indicated.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Verify that trench cut, and excavation base is ready to receive work.
- B. Verify that existing utility water main size, location, and invert are as indicated on Drawings.

### 3.2 PREPARATION

- A. Correct over-excavation as specified in Section 312316 – Excavation.
- B. Remove large stones or other hard materials that could damage pipe or impede consistent backfilling or compaction.
- C. Protect and support existing utilities and appurtenances.
- D. Pipe Cutting:
  - 1. Cut pipe ends square, ream pipe and tube end to full pipe diameter, and remove burrs.
  - 2. Use only equipment specifically designed for pipe cutting; use of chisels or hand saws is not permitted.
  - 3. Grind edges smooth with beveled end for push-on connections.
- E. Remove scale and dirt on inside and outside before assembly.
- F. Prepare pipe connections to equipment with flanges or unions.

### 3.3 INSTALLATION

- A. Bedding:
  - 1. Excavation:
    - a. Excavate pipe trench as specified in Section 312317 – Trenching for Work of this Section.



2. Dewater excavations to maintain dry conditions and to preserve final grades at bottom of excavation.
3. Provide sheeting and shoring as specified in Section 312317 - Trenching.
4. Place bedding material at trench bottom, level fill materials in one continuous layer not exceeding 6 inches compacted depth and compact to 90 percent of maximum density.

B. Piping:

1. Install pipe according to AWWA C600 and/or AWWA C605.
2. Handle and assemble pipe according to manufacturer instructions and as indicated on Drawings.
3. Steel Rods, Bolt, Lugs, and Brackets: Coat buried steel with one coat of coal tar coating before backfilling.
4. Maintain 10 feet horizontal separation of water main from sewer piping and 18" vertical separation from sewer line.
5. Install ductile-iron piping and fittings according to AWWA C600.
6. Bearing:
  - a. Install pipe to have bearing along entire length of pipe.
  - b. Do not lay pipe in wet or frozen trench.
7. Prevent foreign material from entering pipe during placement.
8. Install pipe to allow for expansion and contraction without stressing pipe or joints.
9. Close pipe openings with watertight plugs during Work stoppages.
10. Install access fittings to permit disinfection of water system performed under Section 331300 - Disinfecting of Water Utility Distribution.
11. Cover:
  - a. Establish elevations of buried piping with not less than three feet of cover.
  - b. Measure depth of cover from final surface grade to top of pipe barrel.
12. Pipe Markers:
  - a. Install plastic ribbon tape continuous buried 18 inches below finish grade, install tracer wire above piping.
  - b. Coordinate with trench Work as specified in Section 312317 - Trenching

C. Valves and Hydrants:

1. Install valves as specified in Section 331216 - Water Utility Distribution Valves.
2. Install hydrants as specified in Section 331219 - Water Utility Distribution Fire Hydrants.

D. Tapping Sleeves and Valves:

1. As indicated on Drawings and according to manufacturer instructions.

E. Meters:

1. Install positive displacement meters with isolating valves on inlet and outlet according to AWWA M6.

F. Thrust Restraints:

1. Provide valves, tees, bends, caps, and plugs with concrete thrust blocks.
2. Pour concrete thrust blocks against undisturbed earth.
3. Locate thrust blocks at each elbow or change of pipe direction to resist resultant force and to ensure that pipe and fitting joints will be accessible for repair.
4. See drawings for sq. ft. of thrust restraint bearing on subsoil.
5. Install tie rods, clamps, setscrew retainer glands, or restrained joints.
6. Protect metal-restrained joint components against corrosion by applying a bituminous coating, wax tape or encasing metal area using concrete mortar.
7. Do not encase pipe and fitting joints to flanges.
8. Install thrust blocks, tie rods, and joint restraint at dead ends of water main.

G. Service Connections:

1. As specified in Section 331213 - Water Service Connections.

H. Backfilling:

1. Provide bedding around sides and 6" over top of pipe. Place crusher run backfill over bedding in maximum lifts of 12 inches, tamp in place, and compact to 98 percent of existing surrounding undisturbed ground density.
2. Maintain optimum moisture content of backfill material to attain required compaction density.

I. Backfilling: Backfill around sides and to top of pipe as specified in Section 312317 - Trenching.

J. Disinfection of Potable Water Piping System:

1. As specified in Section 331300 - Disinfecting of Water Utility Distribution.

### 3.4 TOLERANCES

- A. Section 014000 - Quality Requirements: Requirements for tolerances.
- B. Install pipe to indicated elevation.

### 3.5 FIELD QUALITY CONTROL

- A. Request inspection by Engineer prior to and immediately after placing bedding.
- B. Pressure test system according to AWWA C600 and following:
  1. Test Pressure: Not less than 200 psig or 50 psi in excess of maximum static pressure, whichever is greater.

2. Conduct hydrostatic test for at least two hours.
3. Slowly fill section to be tested with water; expel air from piping at high points. Install corporation cocks at high points. Close air vents and corporation cocks after air is expelled. Raise pressure to specified test pressure.
4. Observe joints, fittings, and valves under test. Remove and renew cracked pipes, joints, fittings, and valves showing visible leakage. Retest.
5. Correct visible deficiencies and continue testing at same test pressure for additional two hours to determine leakage rate. Maintain pressure within plus or minus 5 psi of test pressure. Leakage is defined as quantity of water supplied to piping necessary to maintain test pressure during period of test.
6. Compute maximum allowable leakage using following formula:
  - a.  $L = SD \times \sqrt{P}/C$ .
    - 1) L = testing allowance, gph.
    - 2) S = length of pipe tested, feet.
    - 3) D = nominal diameter of pipe, inches.
    - 4) P = average test pressure during hydrostatic test, psig.
    - 5) C = 148,000.
  - b. If pipe under test contains sections of various diameters, calculate allowable leakage from sum of computed leakage for each size.
7. Leakage:
  - a. If test of pipe indicates leakage greater than allowed, locate source of leakage, make corrections, and retest until leakage is within allowable limits.
  - b. Correct visible leaks regardless of quantity of leakage.
- C. If tests indicate Work does not meet specified requirements, remove Work, replace, and retest.
- D. Frequency of Compaction Tests: Once every 500 linear feet.

END OF SECTION 331113

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## SECTION 331213 - WATER SERVICE CONNECTIONS

### PART 1 - GENERAL

#### 1.1 SUMMARY

A. Section Includes:

1. Pipe and fittings for 2- inch and smaller water service connections.
2. Corporation stop assemblies.
3. Curb stop assemblies.
4. Meter setting equipment.
5. Water meters.
6. Backflow preventers.
7. Underground pipe markers.
8. Precast concrete vaults.
9. Bedding and cover materials.

B. Related Requirements:

1. Section 012000 - Price and Payment Procedures
2. Section 033000 - Cast-in-Place Concrete: Concrete for thrust restraints.
3. Section 312316.13 - Trenching: Excavation of pipe trench.
4. Section 331300 - Disinfecting of Water Utility Distribution: Flushing and disinfecting of water system.

#### 1.2 REFERENCE STANDARDS

A. American Association of State Highway and Transportation Officials:

1. AASHTO T 180 - Standard Method of Test for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

B. American Society of Mechanical Engineers:

1. ASME B16.18 - Cast Copper Alloy Solder Joint Pressure Fittings.
2. ASME B16.22 - Wrought Copper and Copper Alloy Solder Joint Pressure Fittings.

C. American Society of Sanitary Engineering:

1. ASSE 1012 - Performance Requirements for Backflow Preventers with an Intermediate Atmospheric Vent.
2. ASSE 1013 - Performance Requirements for Reduced Pressure Principle Backflow Preventers and Reduced Pressure Principle Fire Protection Backflow Preventers.

D. ASTM International:

1. ASTM A48 - Standard Specification for Gray Iron Castings.

2. ASTM B62 - Standard Specification for Composition Bronze or Ounce Metal Castings.
3. ASTM B88 - Standard Specification for Seamless Copper Water Tube.
4. ASTM C858 - Standard Specification for Underground Precast Concrete Utility Structures.
5. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft<sup>3</sup> (600 kN-m/m<sup>3</sup>).
6. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft<sup>3</sup> (2,700 kN-m/m<sup>3</sup>).
7. ASTM D1785 - Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120.
8. ASTM D2241 - Standard Specification for Poly (Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR Series).
9. ASTM D2466 - Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40.
10. ASTM D2855 - Standard Practice for Making Solvent-Cemented Joints with Poly (Vinyl Chloride) (PVC) Pipe and Fittings.
11. ASTM D6938 - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).

E. American Welding Society:

1. AWS A5.8 - Specification for Filler Metals for Brazing and Braze Welding.

F. American Water Works Association:

1. AWWA C600 - Installation of Ductile-Iron Mains and Their Appurtenances.
2. AWWA C700 - Cold-Water Meters - Displacement Type, Bronze Main Case.
3. AWWA C701 - Cold-Water Meters - Turbine Type, for Customer Service.
4. AWWA C702 - Cold-Water Meters - Compound Type.
5. AWWA C706 - Direct-Reading, Remote-Registration Systems for Cold-Water Meters.
6. AWWA C800 - Underground Service Line Valves and Fittings.
7. AWWA C901 - Polyethylene (PE) Pressure Pipe and Tubing, 1/2 In. Through 3 In., for Water Service.
8. AWWA M6 - Water Meters - Selection, Installation, Testing, and Maintenance.

### 1.3 SUBMITTALS

- A. Product Data: Submit data on pipe materials, pipe fittings, corporation stop assemblies, curb stop assemblies, meters, meter setting equipment, service saddles, backflow preventer, and accessories.
- B. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- C. Manufacturer Instructions: Submit detailed instructions on installation requirements, including storage and handling procedures.
- D. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.

1.4 CLOSEOUT SUBMITTALS

- A. Project Record Documents: Record actual locations of piping mains, curb stops, connections, thrust restraints, and invert elevations.
- B. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

1.5 QUALITY ASSURANCE

- A. Perform Work according to AWWA standards.

1.6 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum three (3) years' documented experience.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Section 016000 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.
- B. Inspection: Accept materials on Site in manufacturer's original packaging and inspect for damage.
- C. Store products and materials off ground and under protective coverings and away from walls.
- D. Exercise care in handling precast concrete products to avoid chipping, cracking, and breakage.

PART 2 - PRODUCTS

2.1 WATER PIPING AND FITTINGS

- A. Copper Tubing:
  - 1. Comply with ASTM B88.
  - 2. Type K, annealed.
  - 3. Fittings: Conform to ASME B16.18, cast copper or ASME B16.22, wrought copper.
  - 4. Joints: Compression connection.
- B. Polyethylene Pipe:
  - 1. Comply with AWWA C901 ASTM D3035, SDR9 for 200 psig pressure rating.
  - 2. Fittings: Comply with AWWA C901, molded or fabricated.
  - 3. Joints: Compression or Butt fusion.

## 2.2 CORPORATION STOP ASSEMBLIES

### A. Manufacturers:

1. Ford Meter Box Co., Inc.
2. Substitutions: As approved by the Engineer.

Body: Brass or red brass alloy

### B. Corporation Stops:

1. Comply with ASTM B62.
2. Body: Brass or red brass alloy.
3. Inlet End: Threaded for tapping according to AWWA C800.
4. Outlet End: Suitable for service pipe specified.

### C. Service Saddles:

1. Type: Double strap.
2. Designed to hold pressures in excess of pipe working pressure.

## 2.3 METER SETTING EQUIPMENT

### A. Manufacturers:

1. Ford Meter Box Co., Inc.
2. Substitutions: As approved by the Engineer.

### B. Outside Meter Setting:

1. Meter Yokes:
  - a. Material: Cast iron.
  - b. Inlets and Outlets: Horizontal setting, with matching couplings, fittings, and stops.

## 2.4 WATER METERS

- A. The Town of Clifton Forge will supply the water meter. Contractor to install meter upon receipt.

## 2.5 METER WELLS AND LIDS

### A. Manufacturers:

1. Ford Meter Box Co., Inc.
2. Substitutions: As approved by the Engineer.

- B. Meter Wells: 18"x30" white corrugated meter well if installing single service, 20" x 30" white corrugated meter well if installing high pressure meter setters.



- C. Lids: Ford Model #A32 with locking lid or Engineers approved equal.

## 2.6 BACKFLOW PREVENTERS

A. Manufacturers:

1. CLA-VAL Company
2. Substitutions: As approved by the Engineer.

B. Reduced-Pressure Backflow Preventers:

1. Comply with ASSE 1013.
2. Materials:
  - a. Body: Bronze.
  - b. Internal Parts: Bronze.
  - c. Springs: Stainless steel.
3. Check Valves:
  - a. Quantity: Two, operating independently operating.
  - b. Spring-loaded.
  - c. Third Check Valve: Open under back pressure in case of diaphragm failure.
4. Differential Pressure Relief Valve:
  - a. Type: Diaphragm.
  - b. Located between check valves.
5. Gate Valves:
  - a. Type: Resilient seated according to AWWA C509.
  - b. Quantity: Two.
6. Accessories:
  - a. Non-threaded vent outlet.
  - b. Strainer.
  - c. Four resilient-seated ball valve test cocks.

C. Double Check Valve Assemblies:

1. Comply with ASSE 1012.
2. Materials:
  - a. Body: Bronze.
  - b. Internal Parts: Corrosion resistant.
  - c. Springs: Stainless steel.
3. Check Valves:

- a. Quantity: Two, operating independently.
- b. Intermediate atmospheric vent.

## 2.7 ACCESSORIES

- A. Concrete for Thrust Restraints: As specified in Section 033000 - Cast-in-Place Concrete .

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Verify that trench cut and excavation is ready to receive work.

### 3.2 PREPARATION

- A. Cut pipe ends square, ream pipe and tube ends to full pipe diameter, and remove burrs.
- B. Remove scale and dirt from inside and outside of piping before assembly.
- C. Prepare pipe connections to equipment with flanges or unions.

### 3.3 INSTALLATION

- A. Corporation Stop Assemblies:
  - 1. Make connection for each different kind of water main using suitable materials, equipment, and methods as approved by Engineer.
  - 2. Provide service clamps for mains constructed of materials other than cast iron or ductile iron.
  - 3. Location:
    - a. Provide full support for service clamp for full circumference of pipe, with minimum 2 inches width of bearing area. Attach corporation stops at 10 and 2 o'clock positions along the main's circumference.
    - b. Locate and stagger corporation stops at least 12 inches apart longitudinally.
  - 4. Plastic Pipe Mains:
    - a. Provide full support for service clamp for full circumference of pipe, with minimum 2 inches width of bearing area. Attach corporation stops at 10 and 2 o'clock positions along the main's circumference.
    - b. Exercise care against crushing or causing other damage to mains at time of tapping or installation of service clamp or corporation stop.
  - 5. Use proper seals or other devices such that no leaks are present in mains at points of tapping.
  - 6. Do not backfill and cover service connections until installation is approved by Engineer.

B. Bedding:

1. Excavate pipe trench as specified in Section 312317 - Trenching.
2. Placement:
  - a. Place bedding material at trench bottom.
  - b. Level fill materials in one continuous layer not exceeding 6 inches compacted depth.
  - c. Compact backfill to 100% of surrounding ground density.
3. Place bedding around sides and 6" above top of pipe.
4. Maintain optimum moisture content of fill material to attain required compaction density.

C. Pipe and Fittings:

1. Maintain minimum separation of water lines from sewer piping of 18" vertical and 10' horizontal.
2. Install pipe to indicated elevation.
3. Install access fittings to permit disinfection of water system performed under Section 331300 - Disinfecting of Water Utility Distribution.
4. Form and place concrete for thrust restraints at each elbow or change of direction of pipe.
5. Establish elevations of buried piping with not less than 3 feet of cover over top of pipe.

D. Curb Stop Assemblies:

1. Set curb stops on solid bearing.
2. Boxes:
  - a. Center and plumb curb boxes over curb stops.
  - b. Set box cover flush with finished grade.

E. Water Meters:

1. Install positive displacement meters according to AWWA M6, with isolating valves.
2. Installation Standards: Install Work according to **Town of Clifton Forge PSD** standards.

F. Service Connections:

1. Install water service according to utility company requirements.

G. Disinfection of Water Piping System:

1. Flush and disinfect system as specified in Section 331300 - Disinfecting of Water Utility Distribution.

3.4 FIELD QUALITY CONTROL

- A. Request Inspection by Engineer prior to backfilling trench.

B. Pressure test water distribution system according to AWWA C600.

1. Test Pressure: Not less than 200 psig or 50 psi in excess of maximum static pressure, whichever is greater.
2. Conduct hydrostatic test for at least two hours on each section from valve to valve.
3. Slowly fill with water section to be tested and expel air from piping at high points.
4. Install corporation cocks at high points.
5. Close air vents and corporation cocks after air is expelled.
6. Raise pressure to specified test pressure.
7. Observe joints, fittings, and valves under test.
8. Remove and replace cracked pipes, joints, fittings, and valves that show visible leakage and retest.
9. Correct visible deficiencies and continue testing at same test pressure for additional two hours to determine leakage rate, maintaining test pressure within plus or minus 5.0 psi.
10. Leakage is defined as quantity of water supplied to piping as necessary to maintain test pressure during testing period.
11. Compute maximum allowable leakage using following formula:
  - a.  $L = SD \times \sqrt{P}/C$ .
    - 1) L = testing allowance, gph.
    - 2) S = length of pipe tested, feet.
    - 3) D = nominal diameter of pipe, inches.
    - 4) P = average test pressure during hydrostatic test, psig.
    - 5) C = 148,000.
  - b. If pipe under test contains sections of various diameters, calculate allowable leakage from sum of computed leakage for each size.
12. If test of pipe indicates leakage greater than that allowed, locate source of leakage, make corrections, and retest until leakage is within allowable limits.
13. Correct visible leaks regardless of quantity of leakage.

C. If tests indicate Work does not meet specified requirements, remove Work, replace, and retest.

END OF SECTION 331213

## **BID FORM FOR CONSTRUCTION CONTRACT**

The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

### **ARTICLE 1—OWNER AND BIDDER**

- 1.01 This Bid is submitted to:

*Town of Clifton Forge  
547 Main Street  
Clifton Forge, VA 24422*

- 1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

### **ARTICLE 2—ATTACHMENTS TO THIS BID**

- 2.01 The following documents are submitted with and made a condition of this Bid:

A. Bid Opening Requirements

Note: Bid Opening Requirements (BOR - 28-32) includes the American Iron and Steel Certification which needs to be filled out and signed by the Contractor.

## ARTICLE 3—BASIS OF BID—LUMP SUM BID AND UNIT PRICES

### GENERAL

The Bidder shall take notice of and shall be responsible for any local or state taxes levied and applicable, and the cost for the same shall be included as part of the submitted Bid.

The total Bid cost stated includes a complete operating installation including furnishing and installation of any and all changes or additions in plans, piping, mechanical work, accessories, etc. necessary to accommodate alternative equipment systems or materials used in construction.

### BID PROPOSAL

The Bidder agrees to perform all required Work described in the detailed Specifications and as shown on the Plans for the complete construction and placing in satisfactory operation the River Road Water System Upgrade project. ~~The Project "Sequence of Construction" has been detailed in the Drawings and Specification Division 1, Project Summary, Section 011000.~~ **The Bidder shall coordinate with the Owner and Engineer on a "Sequence of Construction".** The Bidder agrees to perform all the Work proposed for the total of the following Bid prices.

#### 3.01 *Lump Sum Bids*

- A. Bidder will complete the Work in accordance with the Contract Documents for the lump sum (stipulated) price(s), together with any Unit Prices indicated in Paragraph 3.02 and shown in the bid schedule.
- B. Lump Sum Bids may be one of the following:
  - 1. Lump Sum Price (Single Lump Sum)
  - 2. Lump Sum Price (Base Bid and Alternates)
  - 3. Lump Sum Price (Sectional Lump Sum Bids)
- C. All specified cash allowance(s) are included in the price(s) set forth in the bid schedule and have been computed in accordance with Paragraph 13.02 of the General Conditions.
- D. All specified contingency allowances are included in the price(s) set forth in the bid schedule and have been computed in accordance with Paragraph 13.02 of the General Conditions.

#### 3.02 *Unit Price Bids*

- A. Bidder will perform the following Work at the indicated unit prices as shown in the Bid Schedule.
- B. Bidder acknowledges that:
  - 1. Each Bid Unit Price includes an amount considered by Bidder to be adequate to cover Contractor's overhead and profit for each separately identified item, and
  - 2. Estimated quantities are not guaranteed and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Work will be based on actual quantities, determined as provided in the Contract Documents.

3.03 *Total Bid Price (Lump Sum and Unit Prices)*

**BID SCHEDULE**

**PROPOSED  
RIVER ROAD WATER SYSTEM UPGRADES PROJECT  
FOR THE  
TOWN OF CLIFTON FORGE  
ALLEGHANY COUNTY, VIRGINIA**

**NOTE: Bid PRICE amounts are to be shown in both words and figures. In case of discrepancy, the amount shown in words will govern. Bids shall include sales tax and all other applicable taxes and fees.**

Item #	Qty.	UNIT	DESCRIPTION	UNIT PRICE	UNIT PRICE WRITTEN IN WORDS	TOTAL PRICE
1	1	LS	Mobilization/Demobilization (Maximum 5% of total bid)			
2	1	LS	Pre-Construction Video of Project Area			
3	1	LS	Erosion & Sediment Control			
4	5	EA	6" Valve Insertion			



Item #	Qty.	UNIT	DESCRIPTION	UNIT PRICE	UNIT PRICE WRITTEN IN WORDS	TOTAL PRICE
5	2	EA	Cut and Cap Existing 4" Water Line			
6	560	LF	6" PVC C900 DR-14 Pipe (Open Cut)			
7	126	LF	2" PE DR-7 Water Line (Open Cut)			
8	90	LF	1" PE DR-9 Water Line (Open Cut)			
9	2	EA	1" MJT Gate Valve Complete			
10	3	EA	2" MJT Gate Valve complete			
11	5	EA	6" MJT Gate Valve complete			
12	1	EA	2" Blow Off Assembly Complete			

Item #	Qty.	UNIT	DESCRIPTION	UNIT PRICE	UNIT PRICE WRITTEN IN WORDS	TOTAL PRICE
13	3	EA	5/8" Water Meter Setting complete			
14	2	EA	2" Water Meter Setting complete			
15	1	EA	2" Tie-in to new 2" Waterline complete			
16	1	EA	4" Tie-in to new 6" Waterline complete			
17	1	EA	6" Tie-in to Existing 6" Waterline complete			
18	75	TN	2" HMA Overlay			
19	300	LF	Asphalt Pavement Repair			
20	200	LF	Gravel Driveway/Road Repair			

Item #	Qty.	UNIT	DESCRIPTION	UNIT PRICE	UNIT PRICE WRITTEN IN WORDS	TOTAL PRICE
21	25	TN	Incidental Stone			
22	1	LS	Construction Stakeout			
23	1	LS	Traffic Control			

**TOTAL BID:** \_\_\_\_\_ (Words) \_\_\_\_\_ (\$ \_\_\_\_\_) (Figures)

(Amounts are to be shown in both words and figures. In case of discrepancy, the amount shown in words will govern.)

**NOTE: THE CONTRACTOR'S UNIT PRICES SHALL INCLUDE PURCHASE AND INSTALLATION, COMPLETE IN PLACE, PER BID ITEM IN ACCORDANCE WITH THE DETAILED SPECIFICATIONS.**

Bidder acknowledges that (1) each Bid Unit Price includes an amount considered by Bidder to be adequate to cover Contractor's overhead and profit for each separately identified item, and (2) estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all unit price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

#### 3.04 *Method of Award*

If at the time this contract is to be awarded, the lowest total bid submitted by a qualified, responsive, responsible Bidder does not exceed the amount of funds then estimated by the Owner, as available to finance the contract, the construction

- A. Unit prices have been computed in accordance with paragraph 13.03.A of the General Conditions.
- B. Bidder acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Bid items will be based on actual quantities, determined as provided in the Contract Documents. contract will be awarded. If such bids exceeds such amount, the owner may reject all bids.

#### **~~ARTICLE 4 - BASIS OF BID - COST PLUS FEE~~**

~~4.01 The Contract Price will be the Cost of the Work, determined as provided in Paragraph 13.01 of the General Conditions, together with the following fee, and subject to the Guaranteed Maximum Price.~~

#### ~~4.02 *Contractor's Fee*~~

- ~~A. Contractor's fee will be [number] percent of the Cost of the Work. No fee will be payable on the basis of costs itemized as excluded in Paragraph 13.01.C of the General Conditions.~~
  - ~~1. The maximum amount payable by Owner as a percentage fee (Guaranteed Maximum Fee) will not exceed \$[insert cap amount], subject to increases or decreases for changes in the Work.~~
- ~~B. Contractor's fee will be determined by applying the following percentages to the various portions of the Cost of the Work as defined in Article 13 of the General Conditions. No fee will be payable on the basis of costs itemized as excluded in Paragraph 13.01.C of the General Conditions:~~

Costs	Percent
Payroll costs (See Paragraph 13.01.B.1, General Conditions)	
Materials and Installed Equipment cost (GC 13.01.B.2)	
Amounts to be paid to Subcontractors (GC 13.01.B.3)	
Amount to be paid to special consultants (GC 13.01.B.4)	

Other costs (GC 13.01.B.5)

1. ~~The maximum amount payable by Owner as a percentage fee (Guaranteed Maximum Fee) will not exceed \$[insert cap amount], subject to increases or decreases for changes in the Work.~~

~~C. Contractor's fee will be the fixed sum of \$[number].~~

#### 4.03 *Guaranteed Maximum Price*

~~A. The Guaranteed Maximum Price to Owner of the Cost of the Work including Contractor's Fee will not exceed \$[Bidder fill in GMP].~~

**Deleted**

### **ARTICLE 5 ~~PRICE PLUS TIME BID~~**

#### 5.01 *Price Plus Time Contract Award (Stipulated Price Contract)*

~~A. The Bidder to which an award of the Contract will be made will be determined in part on the basis of the Total Bid Price and the total number of calendar days to substantially complete the Work, in accordance with the following:~~

	Description		Amount
A	1. Total Bid Price		\$(number)
	2. Total number of calendar days to substantially complete the Work	{number} days	
	3. Liquidated Damages Rate (from Agreement)	\$(number)/day	
B	4. Adjustment Amount (2 x 3)		\$(number)
A+B	5. Amount for Comparison of Bids		\$(number)

~~B. The purpose of the process in the table above is only to calculate the lowest price plus time (A+B) bid amount for bid comparison purposes. The price for completion of the Work (the Contract Price) is the Total Bid Price.~~

~~C. Bonds required under Paragraph 6.01 of the General Conditions will be based on the Contract Price.~~

#### 5.02 *Price Plus Time Contract Award (Cost Plus Fee with Guaranteed Maximum Price Contract)*

~~A. The Bidder to which an award of Contract will be made will be determined in part on the basis of the Guaranteed Maximum Price and the total number of calendar days to substantially complete the Work, in accordance with the following:~~

	Description		Amount
A	1. Guaranteed Maximum Price		\$(number)
	2. Total number of calendar days to substantially complete the Work	{number} days	
	3. Liquidated Damages Rate (from Agreement)	\$(number)/day	
B	4. Adjustment Amount (2 x 3)		\$(number)
A+B	5. Amount for Comparison of Bids		\$(number)

~~B. The purpose of the process in the table above is only to calculate the lowest price plus time (A+B) bid amount for bid comparison purposes. The price for completion of the Work (the~~



~~Contract Price) is based on the cost of the Work, plus a fee, subject to a guaranteed maximum price, as set forth in the Agreement.~~

~~C. Bonds required under Paragraph 6.01 of the General Conditions will be based on the Contract Price.~~

**Deleted**

#### **ARTICLE 6—TIME OF COMPLETION**

6.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.

6.02 ~~Bidder agrees that the Work will be substantially complete on or before [Bidder inserts date], and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before [Bidder inserts date].~~

**Deleted**

6.03 ~~Bidder agrees that the Work will be substantially complete within [Bidder inserts number] calendar days after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions, and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within [Bidder inserts number] calendar days after the date when the Contract Times commence to run.~~

**Deleted**

6.04 Bidder accepts the provisions of the Agreement as to liquidated damages.

#### **ARTICLE 7—BIDDER'S ACKNOWLEDGEMENTS: ACCEPTANCE PERIOD, INSTRUCTIONS, AND RECEIPT OF ADDENDA**

7.01 *Bid Acceptance Period*

A. This Bid will remain subject to acceptance for 90 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

7.02 *Instructions to Bidders*

A. Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security.

7.03 *Receipt of Addenda*

A. Bidder hereby acknowledges receipt of the following Addenda:

Addendum Number	Addendum Date

#### **ARTICLE 8—BIDDER'S REPRESENTATIONS AND CERTIFICATIONS**

8.01 *Bidder's Representations*

A. In submitting this Bid, Bidder represents the following:

1. Bidder has examined and carefully studied the Bidding Documents, including Addenda.

2. Bidder has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
3. Bidder is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work, **including all American Iron and Steel requirements.**
4. Bidder has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings.
5. Bidder has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.
6. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, if selected as Contractor; and (c) Bidder's (Contractor's) safety precautions and programs.
7. Based on the information and observations referred to in the preceding paragraph, Bidder agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
8. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
9. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
10. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
11. The submission of this Bid constitutes an incontrovertible representation by Bidder that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

8.02 *Bidder's Certifications*

A. The Bidder certifies the following:

1. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation.
2. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid.
3. Bidder has not solicited or induced any individual or entity to refrain from bidding.

4. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 8.02.A:
  - a. Corrupt practice means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process.
  - b. Fraudulent practice means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition.
  - c. Collusive practice means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels.
  - d. Coercive practice means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.



BIDDER hereby submits this Bid as set forth above:

Bidder:

\_\_\_\_\_  
(typed or printed name of organization)

By:

\_\_\_\_\_  
(individual's signature)

Name:

\_\_\_\_\_  
(typed or printed)

Title:

\_\_\_\_\_  
(typed or printed)

Date:

\_\_\_\_\_  
(typed or printed)

*If Bidder is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.*

Attest:

\_\_\_\_\_  
(individual's signature)

Name:

\_\_\_\_\_  
(typed or printed)

Title:

\_\_\_\_\_  
(typed or printed)

Date:

\_\_\_\_\_  
(typed or printed)

Address for giving notices:

\_\_\_\_\_  
\_\_\_\_\_

Bidder's Contact:

Name:

\_\_\_\_\_  
(typed or printed)

Title:

\_\_\_\_\_  
(typed or printed)

Phone:

Email:

Address:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Bidder's Contractor License No.: (if  
applicable)

\_\_\_\_\_

## AGREEMENT BETWEEN OWNER AND CONTRACTOR FOR CONSTRUCTION CONTRACT (STIPULATED PRICE)

This Agreement is by and between the **Town of Clifton Forge** (“Owner”) and **Contractor’s Name** (“Contractor”).

Terms used in this Agreement have the meanings stated in the General Conditions and the Supplementary Conditions.

Owner and Contractor hereby agree as follows:

### ARTICLE 1—WORK

- 1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows: **River Road Water System Upgrades Project**

### ARTICLE 2—THE PROJECT

- 2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: **River Road Water System Upgrades Project**

### ARTICLE 3—ENGINEER

- 3.01 The Owner has retained **The Thrasher Group, Inc.** (“Engineer”) to act as Owner’s representative, assume all duties and responsibilities of Engineer, and have the rights and authority assigned to Engineer in the Contract.
- 3.02 The part of the Project that pertains to the Work has been designed by **Engineer**.

### ARTICLE 4—CONTRACT TIMES

- 4.01 *Time is of the Essence*
- A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.
- 4.02 *Contract Times: Days*
- A. The Work will be substantially complete within **60** days after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within **90** days after the date when the Contract Times commence to run.
- 4.03 *Liquidated Damages*
- A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed and Milestones not achieved within the Contract Times, as duly modified. The parties also recognize the delays, expense, and difficulties involved in proving, in a legal or arbitration proceeding, the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):
1. *Substantial Completion:* Contractor shall pay Owner **\$1000.00** plus costs incurred by Owner and Engineer as a result of the work not being completed including but not limited

to RPR fees, Engineering fees and Permit fees. for each day that expires after the time (as duly adjusted pursuant to the Contract) specified in Paragraph 4.02.A above for Substantial Completion until the Work is substantially complete. Cost will be based off of the rate schedule in the Engineering Service Agreement.

2. *Completion of Remaining Work:* After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, Contractor shall pay Owner **\$1000.00** for each day that expires after such time until the Work is completed and ready for final payment.
3. Liquidated damages for failing to timely attain Milestones, Substantial Completion, and final completion are not additive, and will not be imposed concurrently.
- B. If Owner recovers liquidated damages for a delay in completion by Contractor, then such liquidated damages are Owner's sole and exclusive remedy for such delay, and Owner is precluded from recovering any other damages, whether actual, direct, excess, or consequential, for such delay, except for special damages (if any) specified in this Agreement.

#### 4.06 *Special Damages*

- A. Contractor shall reimburse Owner (1) for any fines or penalties imposed on Owner as a direct result of the Contractor's failure to attain Substantial Completion according to the Contract Times, and (2) for the actual costs reasonably incurred by Owner for engineering, construction observation, inspection, and administrative services needed after the time specified in Paragraph 4.02 for Substantial Completion (as duly adjusted pursuant to the Contract), until the Work is substantially complete.
- B. After Contractor achieves Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times, Contractor shall reimburse Owner for the actual costs reasonably incurred by Owner for engineering, construction observation, inspection, and administrative services needed after the time specified in Paragraph 4.02 for Work to be completed and ready for final payment (as duly adjusted pursuant to the Contract), until the Work is completed and ready for final payment.
- C. The special damages imposed in this paragraph are supplemental to any liquidated damages for delayed completion established in this Agreement.

### ARTICLE 5—CONTRACT PRICE

- 5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents, the amounts that follow, subject to adjustment under the Contract:
  - A. For all Work other than Unit Price Work, a lump sum of **\$As described in Bid Form.**  
All specific cash allowances are included in the above price in accordance with Paragraph 13.02 of the General Conditions.
  - B. For all Unit Price Work, an amount equal to the sum of the extended prices (established for each separately identified item of Unit Price Work by multiplying the unit price times the actual quantity of that item).

Unit Price Work					
Item No.	Description	Unit	Estimated Quantity	Unit Price	Extended Price
	As described in Bid Form			\$	\$
				\$	\$
				\$	\$
				\$	\$
				\$	\$
Total of all Extended Prices for Unit Price Work (subject to final adjustment based on actual quantities)					\$

The extended prices for Unit Price Work set forth as of the Effective Date of the Contract are based on estimated quantities. As provided in Paragraph 13.03 of the General Conditions, estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by Engineer.

- C. Total of Lump Sum Amount and Unit Price Work (subject to final Unit Price adjustment) \$ **As described in Bid Form.**
- D. For all Work, at the prices stated in Contractor's Bid, attached hereto as an exhibit.

## ARTICLE 6—PAYMENT PROCEDURES

### 6.01 Submittal and Processing of Payments

- A. Contractor shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

### 6.02 Progress Payments; Retainage

- A. Owner shall make progress payments on the basis of Contractor's Applications for Payment on or about the 30<sup>th</sup>\* day of each month during performance of the Work as provided in Paragraph 6.02.A.1 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established as provided in the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided elsewhere in the Contract.
  - 1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Owner may withhold, including but not limited to liquidated damages, in accordance with the Contract.
    - a. ~~{number}~~95 percent of the value of the Work completed (with the balance being retainage).
      - 1) ~~If 50 percent or more of the Work has been completed, as determined by Engineer, and if the character and progress of the Work have been satisfactory to Owner and Engineer, then as long as the character and progress of the Work remain satisfactory to Owner and Engineer, there will be no additional retainage; and~~

**Deleted**

- b. ~~{number}~~95 percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).
- B. Upon Substantial Completion of the entire construction to be provided under the **construction Contract Documents**, Owner shall pay an amount sufficient to increase total payments to Contractor to **97.5** percent of the Work completed, less such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions, and less **100** percent of Engineer's estimate of the value of Work to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment.

\* Unless adjusted at the Pre Construction Conference.

6.03 *Final Payment*

- A. Upon final completion and acceptance of the Work, Owner shall pay the remainder of the Contract Price in accordance with Paragraph 15.06 of the General Conditions.

6.04 *Consent of Surety*

- A. Owner will not make final payment or return or release retainage at Substantial Completion or any other time, unless Contractor submits written consent of the surety to such payment, return, or release.

6.05 *Interest*

- A. All amounts not paid when due will bear interest at the rate of **1.5** percent per annum.

**ARTICLE 7—CONTRACT DOCUMENTS**

7.01 *Contents*

- A. The Contract Documents consist of all of the following:
  - 1. This Agreement.
  - 2. Bonds:
    - a. Performance bond (together with power of attorney).
    - b. Payment bond (together with power of attorney).
  - 3. General Conditions.
  - 4. Supplementary Conditions.
  - 5. Additional Supplemental General Conditions.
  - 6. Specifications as listed in the table of contents of the project manual (copy of list attached).
  - 7. Drawings listed on the attached sheet index.
  - 8. Addenda (numbers \_\_ to \_\_, inclusive).
  - 9. Exhibits to this Agreement (enumerated as follows):
    - a. Contractor's Bid (pages C-410-1 to C-410-13, inclusive).
  - 10. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
    - a. Notice to Proceed.

- b. Work Change Directives.
  - c. Change Orders.
  - d. Field Orders.
  - e. Warranty Bond, if any.
- B. The Contract Documents listed in Paragraph 7.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 7.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in the Contract.

## **ARTICLE 8—REPRESENTATIONS, CERTIFICATIONS, AND STIPULATIONS**

### **8.01 *Contractor's Representations***

- A. In order to induce Owner to enter into this Contract, Contractor makes the following representations:
- 1. Contractor has examined and carefully studied the Contract Documents, including Addenda.
  - 2. Contractor has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
  - 3. Contractor is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.
  - 4. Contractor has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings.
  - 5. Contractor has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.
  - 6. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (c) Contractor's safety precautions and programs.
  - 7. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
  - 8. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.

9. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
10. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
11. Contractor's entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

8.02 *Contractor's Certifications*

- A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 8.02:
  1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process or in the Contract execution;
  2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
  3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and
  4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

8.03 *Standard General Conditions*

- A. Owner stipulates that if the General Conditions that are made a part of this Contract are EJCDC® C-700, Standard General Conditions for the Construction Contract (2018), published by the Engineers Joint Contract Documents Committee, and if Owner is the party that has furnished said General Conditions, then Owner has plainly shown all modifications to the standard wording of such published document to the Contractor, through a process such as highlighting or "track changes" (redline/strikeout), or in the Supplementary Conditions.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement.

This Agreement will be effective on \_\_\_\_\_ (which is the Effective Date of the Contract).

Owner:

Town of Clifton Forge

(typed or printed name of organization)

By:

(individual's signature)

Date:

(date signed)

Name:

(typed or printed)

Title:

(typed or printed)

Attest:

(individual's signature)

Title:

(typed or printed)

Address for giving notices:

547 Main Street

Clifton Forge, VA 24422

Designated Representative:

Name:

(typed or printed)

Title:

(typed or printed)

Address:

Phone:

Email:

(If [Type of Entity] is a corporation, attach evidence of authority to sign. If [Type of Entity] is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of this Agreement.)

Contractor:

(typed or printed name of organization)

By:

(individual's signature)

Date:

(date signed)

Name:

(typed or printed)

Title:

(typed or printed)

(If [Type of Entity] is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest:

(individual's signature)

Title:

(typed or printed)

Address for giving notices:

Designated Representative:

Name:

(typed or printed)

Title:

(typed or printed)

Address:

Phone:

Email:

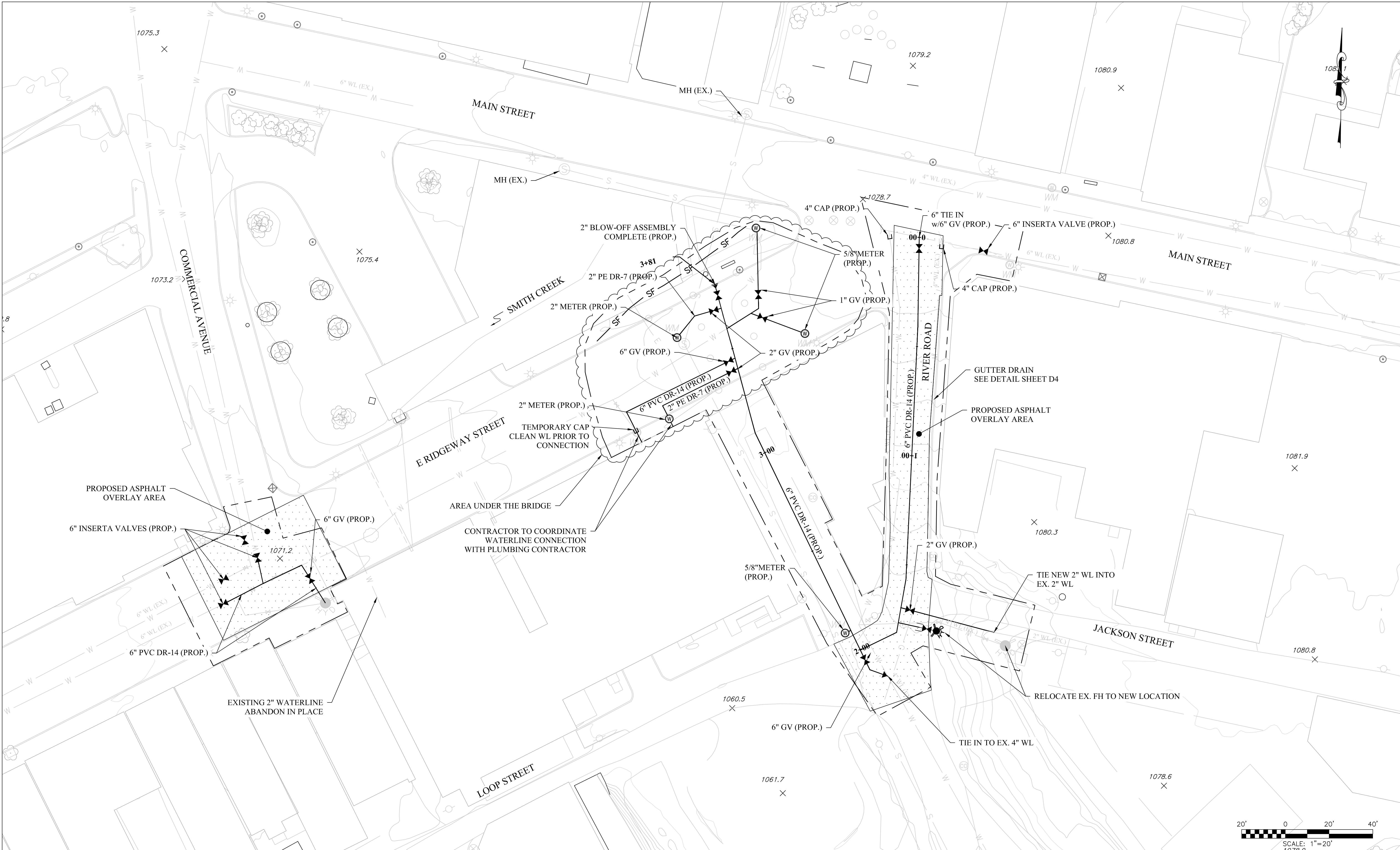
License No.:

(where applicable)

State:



CAD FILE: R:\010\T10-11008.00-River Road Water System Upgrades-Town Of Clifton Forge-300 - Design\2. Design Drawings\Preliminary Site Planning  
PLOT DATE/TIME: 7/1/2022 1:04 PM  
LAYOUT: 2  
USER: brion s. knight



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**THRASHER**

PHONE  
(304)-431-7800

155 BLUE ANGEL LANE  
BEAVER, WV 25813  
www.thrashereng.com

FAX  
(304)-425-0445

PHASE No.
CONTRACT No.
PROJECT No.
101-010-11008

TOWN OF CLIFTON FORGE  
ALLEGHANY COUNTY, VIRGINIA  
RIVER ROAD WATER SYSTEM UPGRADES

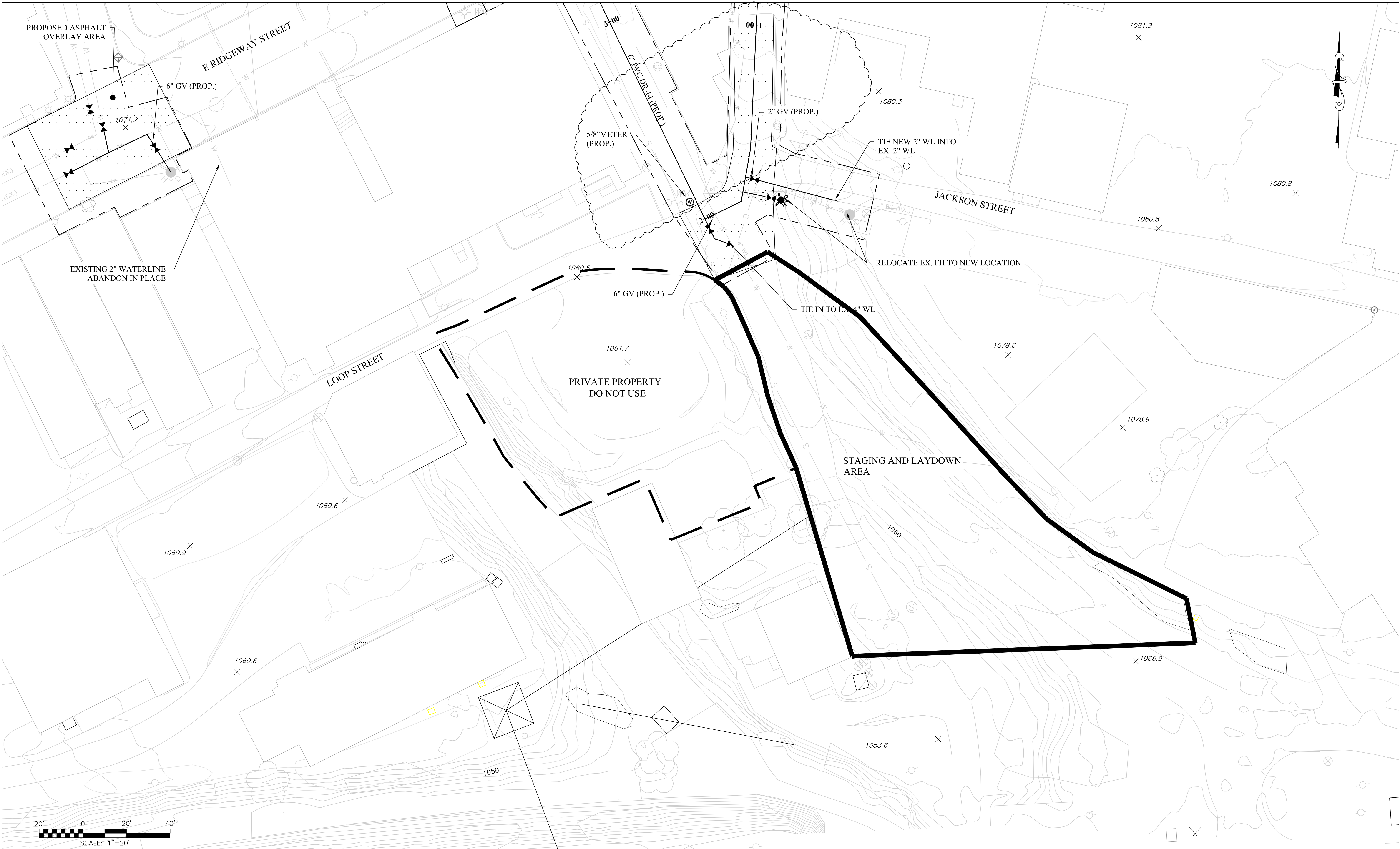
PROPOSED PLAN VIEW

SHEET No.

2



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USER: brian s. knight



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PHONE (304)-431-7800  
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PHASE No.
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PROJECT No.

101-010-11008

TOWN OF CLIFTON FORGE  
ALLEGHANY COUNTY, VIRGINIA  
RIVER ROAD WATER SYSTEM UPGRADES

PROPOSED PLAN VIEW

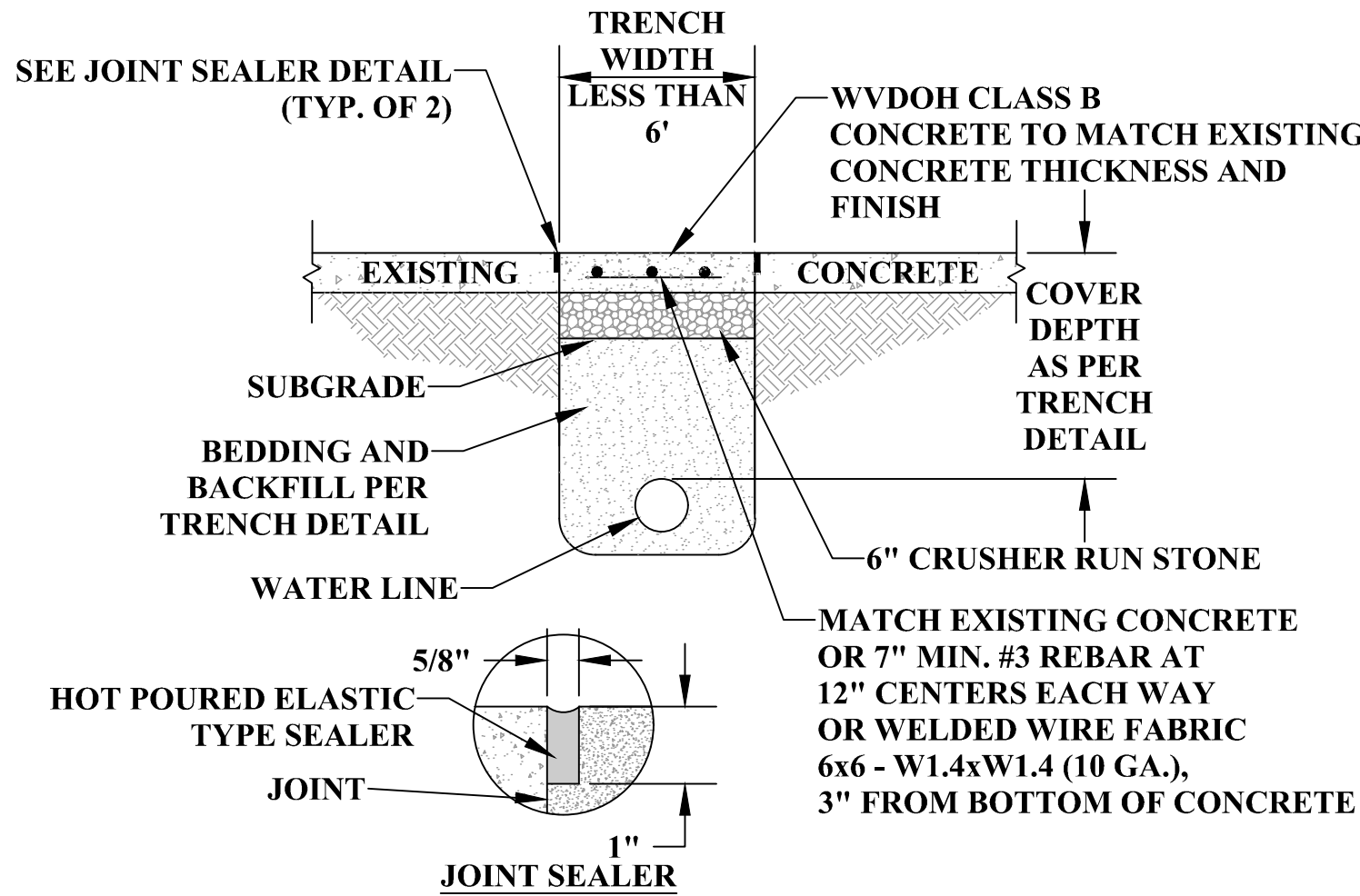
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LAYOUT: D1  
USER: brian s. knight

STREET, ROAD, AND DRIVEWAY

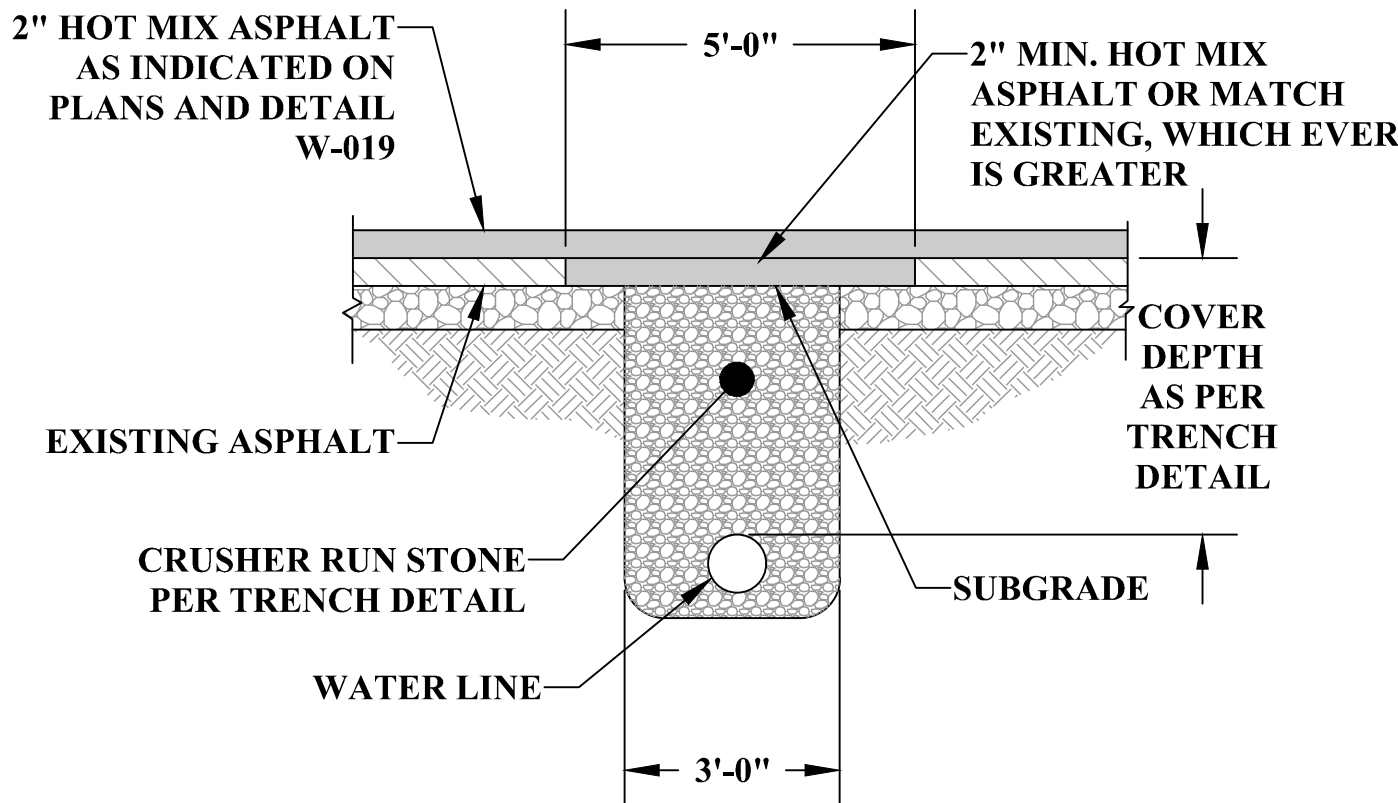


CONCRETE PAVEMENT REPAIR  
NOT TO SCALE

W-006

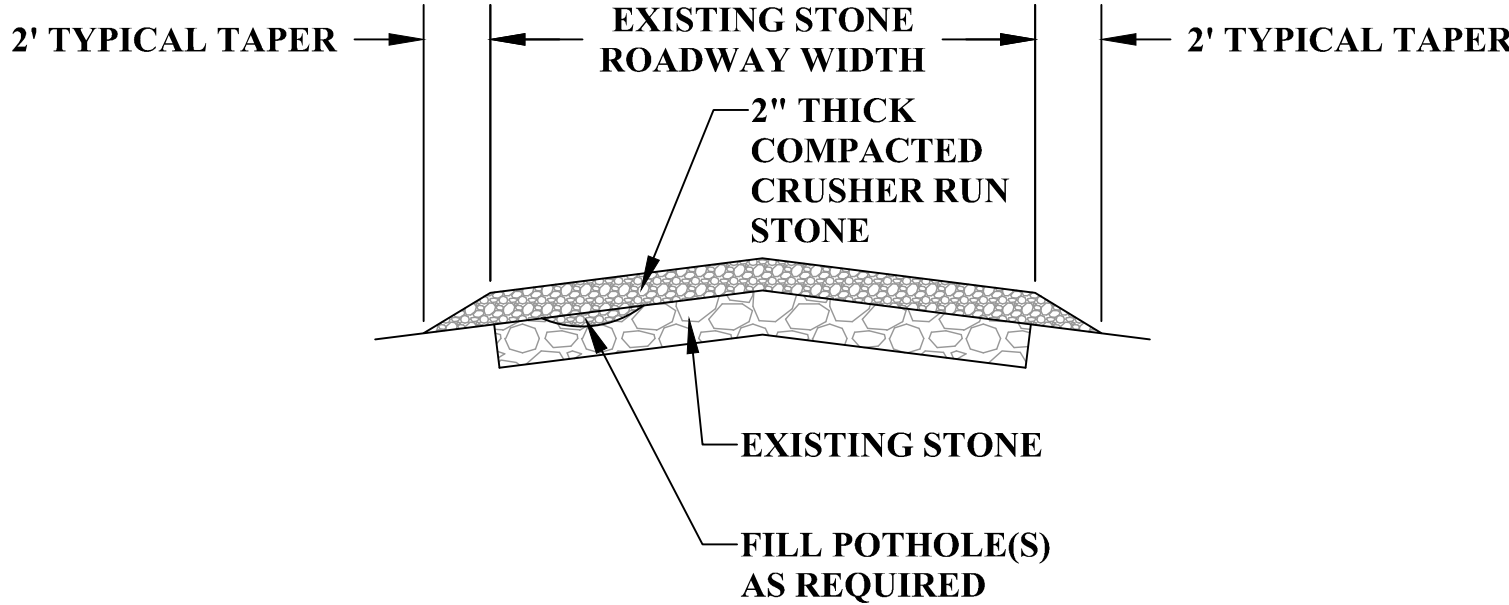
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STREET, ROAD, AND DRIVEWAY



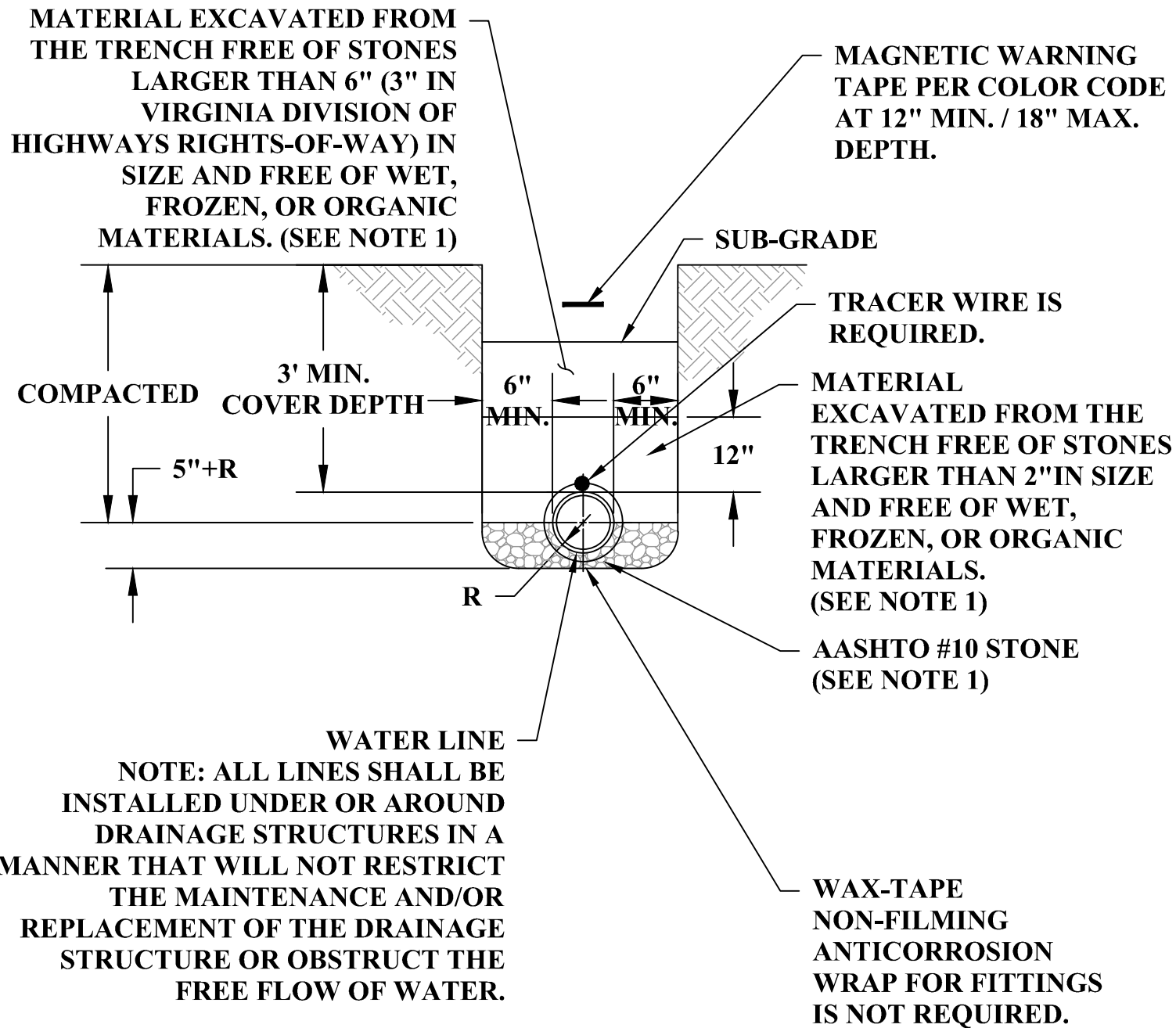
ASPHALT PAVEMENT REPAIR  
NOT TO SCALE

W-008



FULL WIDTH ROADWAY CRUSHED STONE REPAIR  
NOT TO SCALE

W-007A



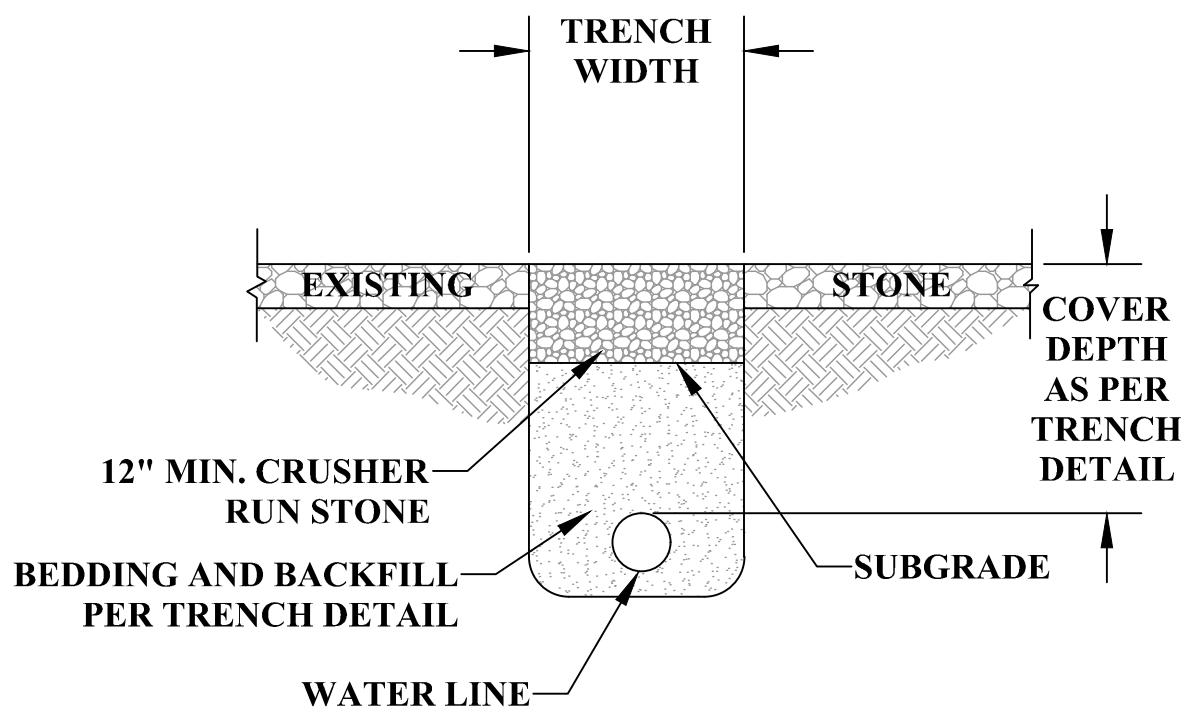
TRENCH DETAIL  
NOT TO SCALE

RED	ELECTRIC
YELLOW	GAS
ORANGE	TELEPHONE
BLUE	WATER
GREEN	SEWER

COLOR CODE  
NOT TO SCALE

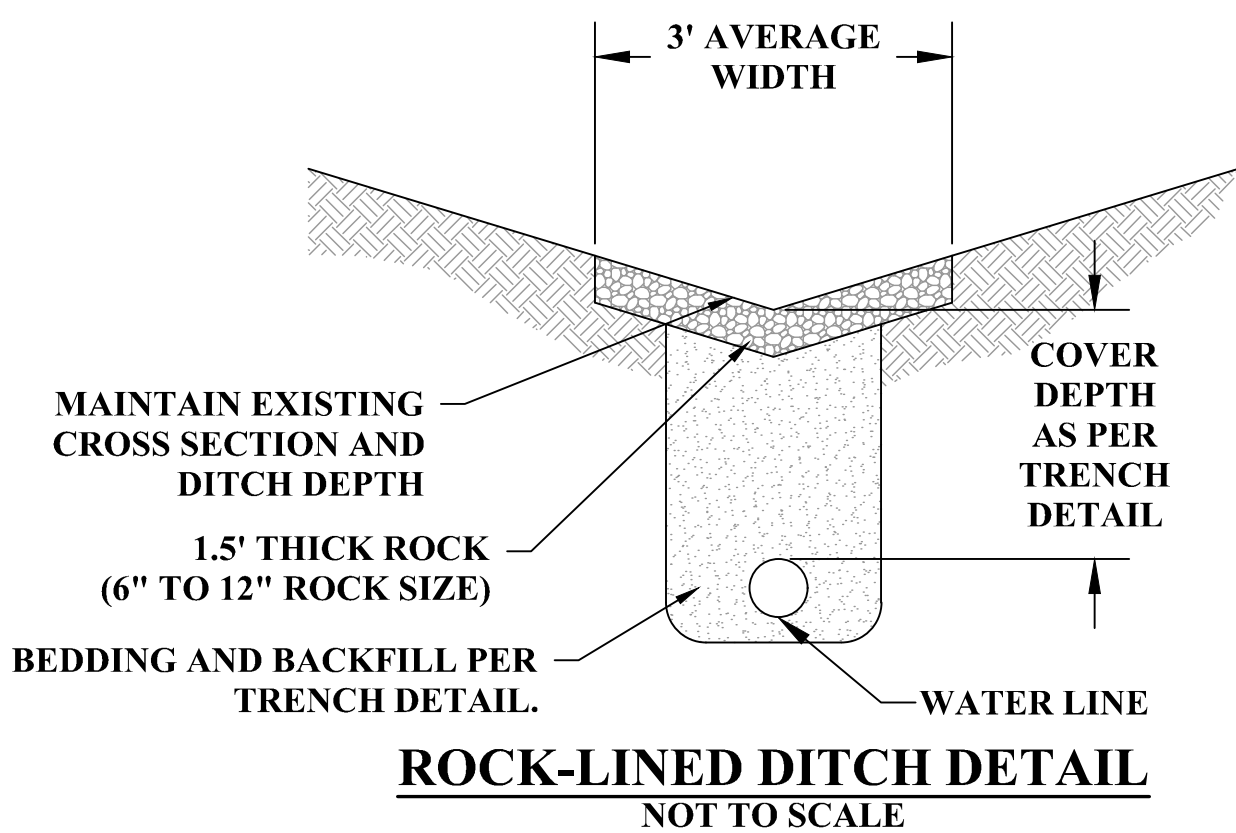
W-000

STREET, ROAD, AND DRIVEWAY



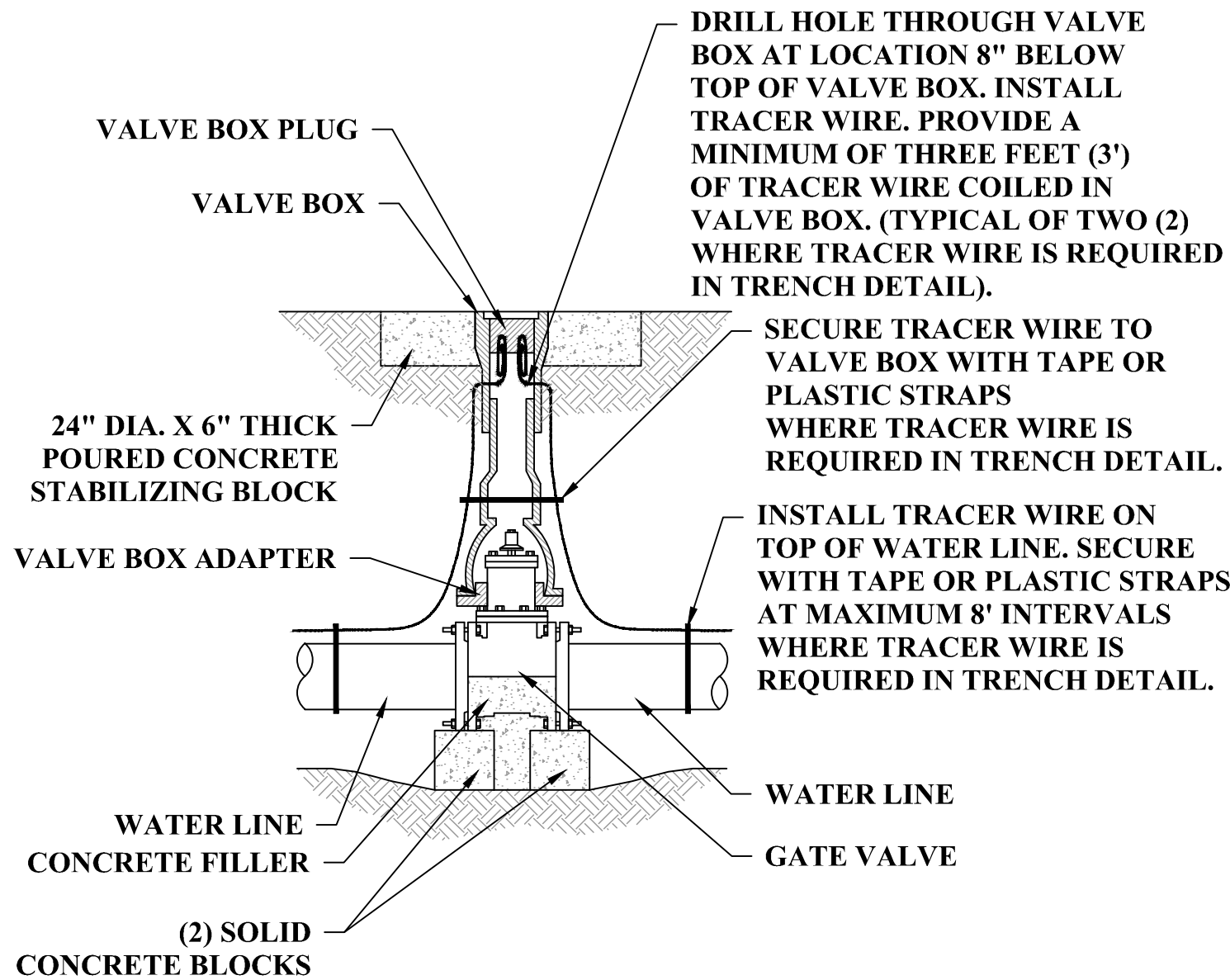
CRUSHED STONE TRENCH REPAIR  
NOT TO SCALE

W-007



ROCK-LINED DITCH DETAIL  
NOT TO SCALE

W-009



GATE VALVE  
NOT TO SCALE

W-011

NOTES

1. CONTRACTOR TO CALL VA811 3 DAYS PRIOR TO EXCAVATION/TRENCHING.
2. CONTRACTOR IS RESPONSIBLE TO VERIFY LOCATION OR EXISTING UTILITIES. ANY DAMAGE TO EXISTING UTILITIES WILL BE REPAIRED BY CONTRACTOR AT NO EXPENSE TO OWNER.
3. CONTRACTOR TO NOTIFY BUILDING OWNER 48 HOURS PRIOR TO ANY DISRUPTION AND/OR LOSS OF WATER.
4. DISRUPTION AND/OR LOSS OF WATER SHALL BE LIMITED TO A MINIMUM OF 8 HOURS DURING NORMAL WORK SCHEDULE (MONDAY-FRIDAY).
5. CONTRACTOR TO COORDINATE WITH TOWN AND/OR PLUMBER TO RECONNECT FIRE SUPPRESSION AND DOMESTIC WATER SERVICE FOR THE ALLEGHENY BUILDING.
6. ENGINEER AND TOWN TO BE NOTIFIED SHOULD CONFLICTS WITH PROPOSED WATERLINE AND EXISTING UTILITIES BE OBSERVED PRIOR TO CONTINUING WITH WORK.
7. CONTRACTOR TO REFERENCE AND ADHERE TO THE RULES AND SPECIFICATIONS OF VDOT 2016 ROAD AND BRIDGE STANDARDS (REVISED DECEMBER 2021).
8. DURING TRENCHING, CONTRACTOR SHALL NOT EXCEED 50' OF OPEN TRENCH AT ANY ONE TIME.
9. INSERTION VALVES SHALL BE A MINIMUM OF 250 PSI.

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(304)-425-0445

PHASE No.
CONTRACT No.
PROJECT No.
101-010-11008

TOWN OF CLIFTON FORGE  
ALLEGHANY COUNTY, VIRGINIA  
RIVER ROAD WATER SYSTEM UPGRADES

TYPICAL DETAILS

SHEET No.

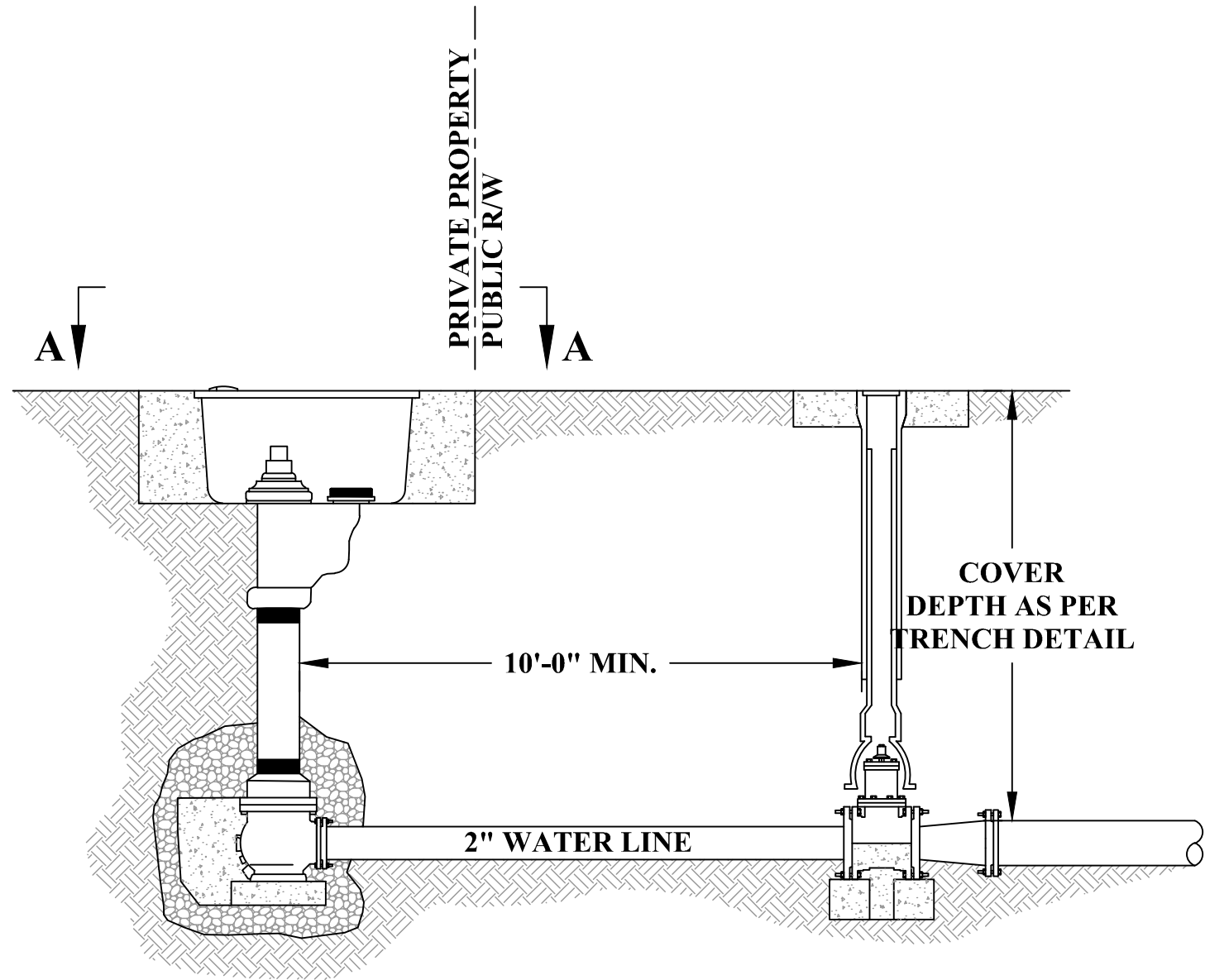
D1

USER: brian s. knight

LAYOUT: D4

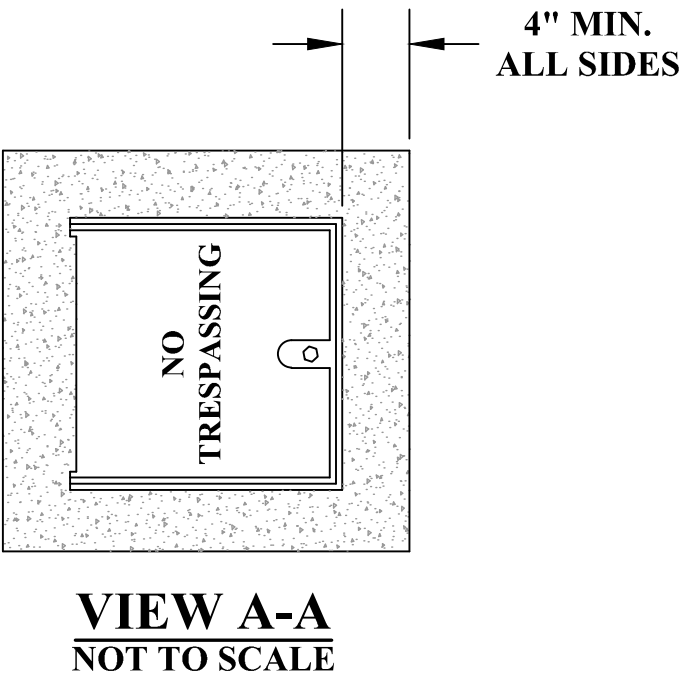
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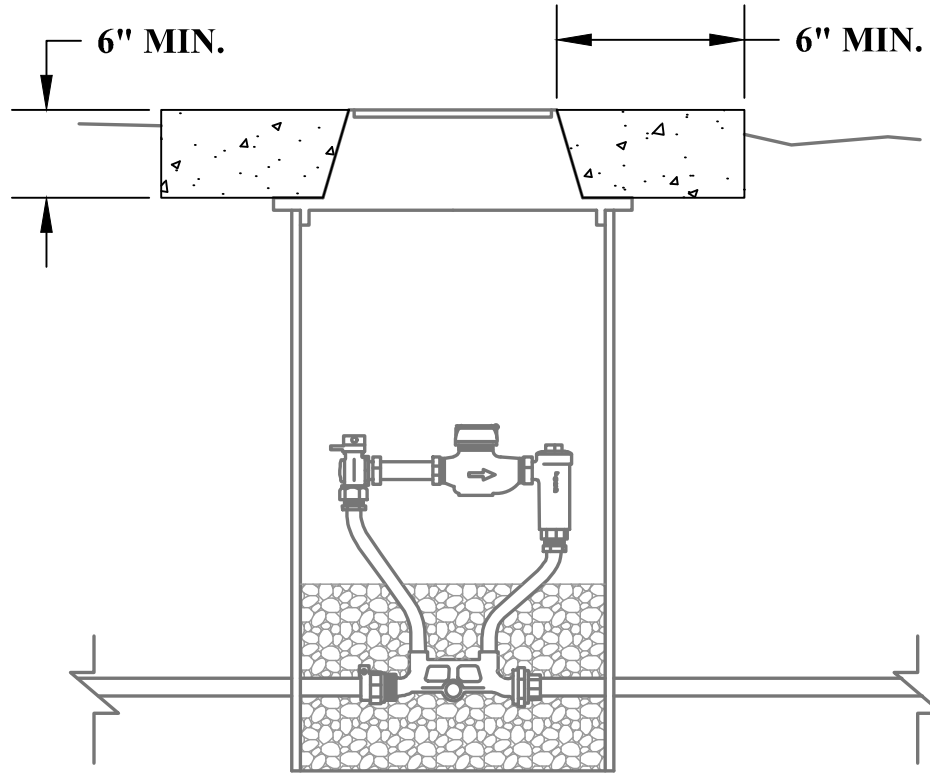


**BLOW-OFF ASSEMBLY DETAIL**  
NOT TO SCALE

NOTE:  
KEEP HOLE OPEN TO DRAIN INTO CLEAN STONE.



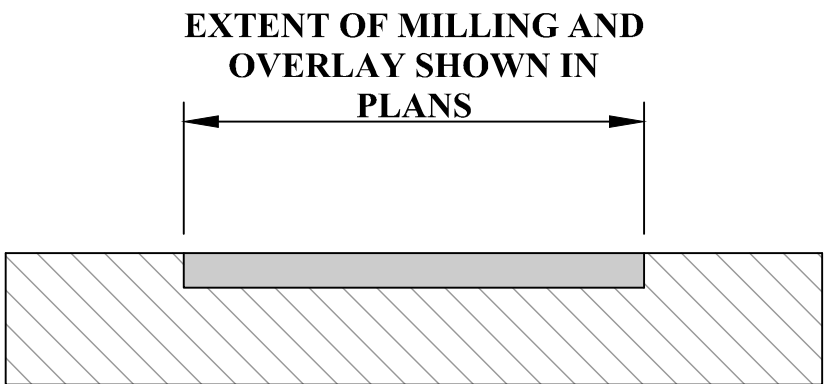
W-024



NOTE:  
1. CONCRETE TO BE FORMED AROUND THE METER BOX TOP.  
2. CONCRETE TO BE A MINIMUM 2,000 PSI.

**METER WELL ANCHOR  
DETAIL**  
NOT TO SCALE

W-047

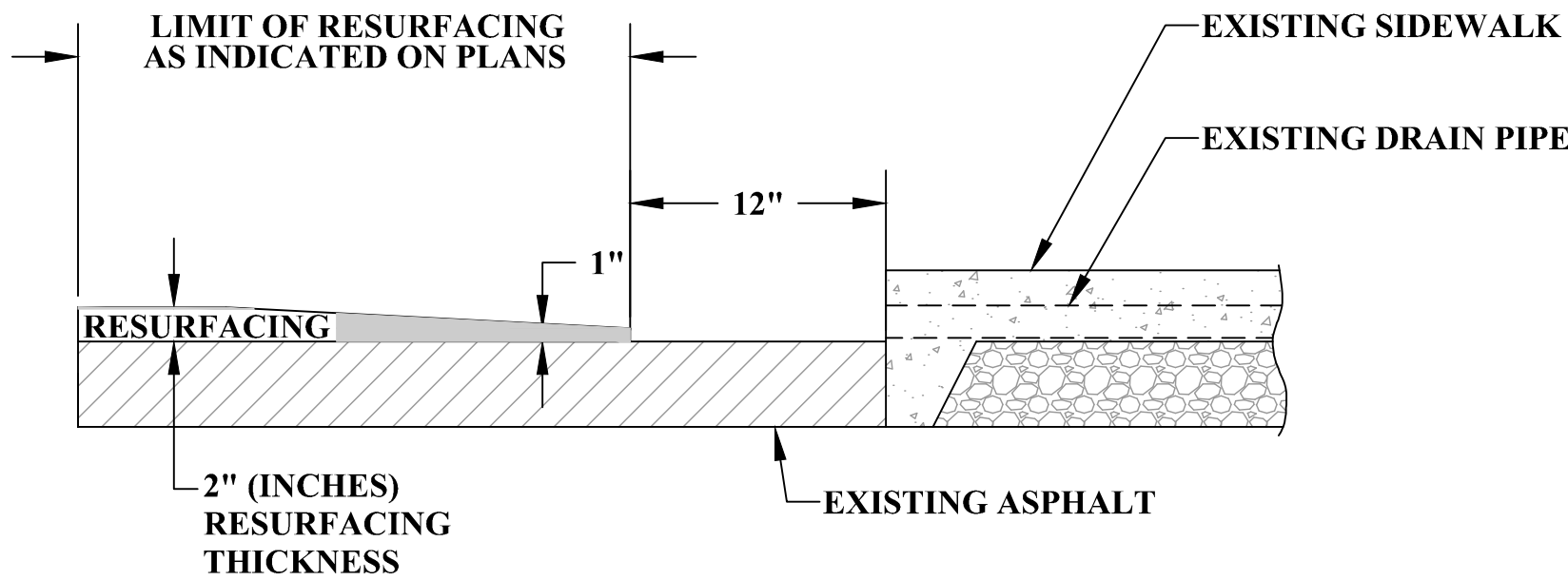


1. MILL TOP 1.5" OF EXISTING ASPHALT PAVEMENT TO DIMENSIONS SHOWN IN PLANS.
2. APPLY TACK COAT AT RATE(S) REQUIRED IN VDOT STANDARD SPECIFICATIONS.
3. FURNISH AND INSTALL 1.5" THICK ASPHALT PAVEMENT WEARING MIX AS PER VDOT SPECIFICATIONS.

**MILLING AND OVERLAY DETAIL**  
NOT TO SCALE

W-051

**ADDENDUM #1**



NOTES: 1) GUTTER DOWNSPOUT DRAINS TO REMAIN OPEN AND FREE DRAINING.

**GUTTER DRAIN DETAIL**  
NOT TO SCALE

W-019

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APPROVED:	DATE:
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SURVEY BY:	
FIELD BOOK No.:	

<b>THRASHER</b>		
155 BLUE ANGEL LANE BEAVER, WV 25813 www.thrashereng.com		
PHONE (304)-431-7800		FAX (304)-425-0445

PHASE No.
CONTRACT No.
PROJECT No.
101-010-11008

TOWN OF CLIFTON FORGE ALLEGHANY COUNTY, VIRGINIA RIVER ROAD WATER SYSTEM UPGRADE
TYPICAL DETAILS

SHEET No.
D4